# MICRO-Line



APPLITEC
CUTTING TOOLS

Nuances
Sorten
Grades
> 16.03

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

> 16.06

Fraises en bout / Fraises à angler
Schaftfräser / Kegelsenker
End mills / Chamfering tools

> 16.52

Outils pour machine WM 701S
Werkzeuge für Maschine WM 701S
Executions for machine WM 701S

> 16.96

Fraises à graver
Gravierfräser
Engraving mills

> 16.108

Micro-forets et forets à centrer
Mikrobohrer und Zentrierbohrer
Micro drills and centering drills

> 16.115

Informations techniques et symboles
Technische Informationen und Symbole
Technical information and symbols
> 16.136



Zurück zum Kapitelanfang



## TiAlN



Revêtement PVD à couche mince
Dünnschicht PVD Beschichtung
Thin PVD coating

TF F M E

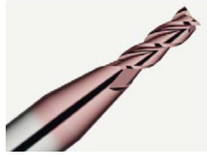
P ★★★★★
M ★★★★☆
N ★★★☆☆
S ★★★★☆

- revêtement de dernière génération couche mince et lisse
- idéal pour tous les aciers et aciers inoxydables
- bonne condition pour les grades de titane et les alliages de nickel
- excellente variante universelle pour un fraisage en finition ou ébauche
- très bonne résistance à la température

- neuesten Generation Beschichtung, dünne und glatte Schicht
- hervorragend für alle Stähle und rostfreie Stähle
- guter Zustand für Titan- und Nickellegierungssorten
- ausgezeichnete Universalsorte zum Schlicht- oder Schruppfräsen
- sehr gute Temperaturbeständigkeit

- latest generation coating thin and smooth layer
- specially adapted for our tools Ideal for all basic steels and stainless steels
- good condition for titanium grades and nickel alloys
- excellent universal variant for finishing or rough milling
- very good temperature resistance

## STF



Revêtement PVD à couche mince
Dünnschicht PVD Beschichtung
Thin PVD coating

TF F M E

P ★★★★☆
M ★★★★★
N ★★★★☆
S ★★★★★

- revêtement de haute performance
- 1er choix pour les alliages de chrome/nickel, inox, titane, zirconium
- spécialement adapté aux matières extrêmes en général

- hochleistungsbeschichtung
- erste Wahl für Chrom/Nickel, rostfreiem Stahl, Titan, Zirkoniumlegierungen
- speziell angepasst für extreme Materialien im Allgemeinen

- high performance coating
- first choice for chrome/nickel, stainless steel, titanium, zirconium alloys
- specially adapted to extreme materials in general

MICRO-Line

Nuances
Sorten
Grades

## TiCN



Revêtement PVD à couche mince
Dünnschicht PVD Beschichtung
Thin PVD coating

TF F M E

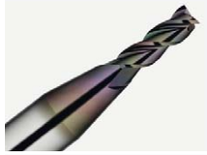
P ★★★★★
M ★★★★☆
N ★★★☆☆
S ★★★★☆

- revêtement de dernière génération offrant une excellente adhérence, avec une couche mince et lisse
- idéal pour le fraisage en finition de tous les aciers et aciers inoxydables
- excellente nuance pour les outils de petits diamètres (0.02-0.90 mm)

- Beschichtung der neuesten Generation mit ausgezeichneter Haftung, dünner und glatter Schicht
- hervorragend für Schlichtfräsen aller Stähle und rostfreien Stähle
- ausgezeichnete Sorte für Werkzeuge mit kleinem Durchmesser (0.02-0.90 mm)

- latest generation coating with excellent adhesion, thin and smooth layer
- ideal for finish milling for all steels and stainless steels
- specially adapted for small diameters (0.02-0.90 mm)

## DLC



Revêtement DLC à couche mince
Dünnschicht DLC Beschichtung
Thin DLC coating

TF F M E

P ☆☆☆☆☆
M ☆☆☆☆☆
N ★★★★★
S ★★☆☆☆

- revêtement de très haute performance et à couche extra-mince
- très faible coefficient de frottement
- 1er choix pour toutes les matières précieuses, non ferreuses et abrasives, telles que l'or, l'argent, le laiton sans plomb, le cuivre, l'aluminium, la fibre de carbone, la nacre et divers polymères…
- angles de coupe à finition poli miroir, offrant une excellente acuité d'arête
- durée de vie de l'outil considérablement prolongée

- hochleistungsbeschichtung mit extra-feiner Schicht
- sehr geringer Reibwert
- erste Wahl für alle edlen, nicht eisenhaltig und abrasiven Materialien wie Gold, Silber, bleifreies Messing, Kupfer, Aluminium, Kohlefaser, Perlmutt und diverse Polymere…
- Schneidkanten mit hochglanzpolierte Oberfläche, die eine hervorragende Schneidkantenschärfe bieten
- deutlich verlängerte Lebensdauer des Werkzeugs

- very high-performance coating with extra-thin layer
- very low friction ratio
- first choice for all precious, non-ferrous and abrasive materials, such as gold, silver, lead-free brass, copper, aluminum, carbon fiber, mother-of-pearl and various polymers…
- cutting edges with mirror-polished finish, offering excellent edge sharpness
- significantly extended tool life

## N



Non revêtu
Unbeschichtet
Uncoated

P ★★☆☆☆
M ★★☆☆☆
N ★★★★☆
S ★★☆☆☆

- carbures de haute qualité, adaptés aux différents groupes de produits
- tous les carbures ont une excellente dureté et une bonne résistance à la déformation
- acuité d'arête maximale grâce à une finition super polie
- idéal pour l'usinage en super finition de matières non ferreuses ou faiblement alliées

- hochwertige und spezifische Hartmetalle gemäss den Produktgruppen
- alle Hartmetalle haben eine ausgezeichnete Härte und eine gute Verformungsbeständigkeit
- maximale Kantenschärfe durch hochpoliertes Finish
- ideal für superfinish Bearbeitung von Nichteisen- oder niedriglegierten Materialien

- high-quality and specific carbides according to the product groups in our catalog
- all carbides have excellent hardness and good resistance to deformation
- maximum edge sharpness thanks to a super polished tool finish
- ideal for super-finish machining of non-ferrous or low-alloy materials

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

> 16.07

| Z | λ | L2 | D1 | D2 | Type | Corner | page |
|---|---|---|---|---|---|---|---|
| Z=1 | 0° | 2x D1 | Ø0.20 - 3.00 | Ø3 h4 / Ø4 h5 | 3170-2 | Sharp Corner | > 16.08 |
| | | 2x D1 | Ø0.20 - 3.00 | Ø3 h4 / Ø4 h5 | 3170R-2 | | > 16.09 |
| | | 3x D1 | Ø0.20 - 3.00 | Ø3 h4 / Ø4 h5 | 3170R-3 | | > 16.10 |
| | | 4x D1 | Ø0.30 - 3.00 | Ø3 h4 / Ø4 h5 | 3170R-4 | | > 16.11 |
| Z=2 | 30° | 0.75x D1 | Ø0.20 - 2.00 | Ø3 h4 | 3271-0.75 | Sharp Corner | > 16.12 |
| | | 1x D1 | Ø0.30 - 2.50 | Ø3 h4 | 3271-1 | | > 16.13 |
| | | 1.5x D1 | Ø0.10 - 2.00 | Ø3 h4 | 3271-1.5 | | > 16.14 |
| | | 2x D1 | Ø0.10 - 2.00 | Ø3 h4 | 3271-2 | | > 16.15 |
| | | 3x D1 | Ø0.10 - 2.90 | Ø3 h4 | 3271-3 | | > 16.16 |
| | | 5x D1 | Ø0.30 - 2.50 | Ø3 h4 | 3271-5 | | > 16.17 |
| | | 8x D1 | Ø0.40 - 2.50 | Ø3 h4 / Ø4 h5 | 3271-8 | | > 16.18 |
| | | 2x D1 | Ø0.20 - 3.00 | Ø3 h4 / Ø6 h5 | 3270S-3X | | > 16.19 |
| | | 2x D1 | Ø0.30 - 3.00 | Ø3 h4 / Ø6 h5 | 3270S-6X | | > 16.20 |
| | | 2x D1 | Ø0.40 - 3.00 | Ø3 h4 / Ø6 h5 | 3270S-9X | | > 16.21 |
| | | 2x D1 | Ø0.30 - 3.00 | Ø3 h4 / Ø6 h5 | 3279T-3X | Radius Corner | > 16.22 |
| | | 2x D1 | Ø0.30 - 3.00 | Ø3 h4 / Ø6 h5 | 3279T-6X | | > 16.23 |
| | | 2x D1 | Ø0.40 - 3.00 | Ø3 h4 / Ø6 h5 | 3279T-9X | | > 16.24 |
| Z=3 | 30° | 1.3x D1 | Ø0.30 - 2.90 | Ø3 h4 | 3371-1.3 | Sharp Corner | > 16.25 |
| | | 2x D1 | Ø0.30 - 2.90 | Ø3 h4 | 3371-2 | | > 16.26 |
| | | 3x D1 | Ø0.30 - 2.90 | Ø3 h4 | 3371-3 | | > 16.27 |
| | | 4x D1 | Ø0.30 - 2.90 | Ø3 h4 | 3371-4 | | > 16.28 |
| | | 5x D1 | Ø0.50 - 2.50 | Ø3 h4 | 3371-5 | | > 16.29 |
| | | 8x D1 | Ø0.50 - 2.50 | Ø3 h4 / Ø4 h5 | 3371-8 | | > 16.30 |
| | 45° | 2.5x D1 | Ø0.30 - 2.90 | Ø3 h4 | 3375-2.5 | | > 16.31 |
| | 36°-38°-40° | 1.5x D1 | Ø0.30 - 2.50 | Ø3 h4 | DHD3371-1.5 | | > 16.32 |
| | | 3x D1 | Ø0.30 - 2.50 | Ø3 h4 | DHD3371-3 | | > 16.33 |
| | 30° | 2x D1 | Ø0.30 - 3.00 | Ø3 h4 / Ø6 h5 | 3370S-3X | | > 16.34 |
| | | 2x D1 | Ø0.30 - 3.00 | Ø3 h4 / Ø6 h5 | 3370S-6X | | > 16.35 |
| | | 2x D1 | Ø0.40 - 3.00 | Ø3 h4 / Ø6 h5 | 3370S-9X | | > 16.36 |
| | | 2x D1 | Ø0.30 - 3.00 | Ø3 h4 / Ø6 h5 | 3379T-3X | Radius Corner | > 16.37 |
| | | 2x D1 | Ø0.30 - 3.00 | Ø3 h4 / Ø6 h5 | 3379T-6X | | > 16.38 |
| | | 2x D1 | Ø0.40 - 3.00 | Ø3 h4 / Ø6 h5 | 3379T-9X | | > 16.39 |
| Z=4 | 30° | 1.5x D1 | Ø0.30 - 2.90 | Ø3 h4 | 3471-1.5 | Sharp Corner | > 16.40 |
| | | 3x D1 | Ø0.30 - 2.90 | Ø3 h4 | 3471-3 | | > 16.41 |
| | 40° | 2x D1 | Ø0.30 - 2.90 | Ø3 h4 | 3472-2 | | > 16.42 |
| | | 4x D1 | Ø0.40 - 2.90 | Ø3 h4 | 3472-4 | | > 16.43 |
| | 35°-38° | 3x D1 | Ø0.50 - 2.50 | Ø3 h4 | DHP3471-3 | | > 16.44 |
| Z=2 | 30° | 0.75x D1 | Ø0.20 - 2.50 | Ø3 h4 | 3278-0.75 | U | > 16.45 |
| | | 1x D1 | Ø0.20 - 2.90 | Ø3 h4 | 3278-1 | | > 16.46 |
| | | 1.5x D1 | Ø0.20 - 2.90 | Ø3 h4 | 3278-1.5 | | > 16.47 |
| | | 3x D1 | Ø0.20 - 2.90 | Ø3 h4 | 3278-3 | | > 16.48 |
| | | 1.5x D1 | Ø0.20 - 3.00 | Ø3 h4 / Ø6 h5 | 3278H-3X | | > 16.49 |
| | | 1.5x D1 | Ø0.30 - 3.00 | Ø3 h4 / Ø6 h5 | 3278H-6X | | > 16.50 |
| | | 1.5x D1 | Ø0.40 - 3.00 | Ø3 h4 / Ø6 h5 | 3278H-9X | | > 16.51 |



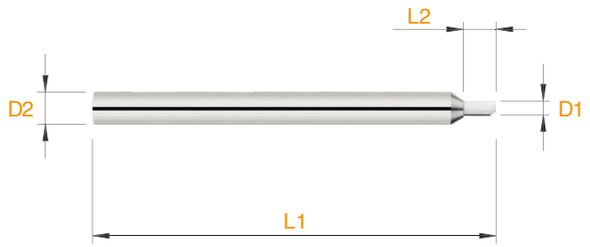
| Matière<br>Werkstoff<br>Material | | VC<br>(m/min) | 0.10 - 0.50<br>fz (mm) | 0.60 - 1.50<br>fz (mm) | 1.60 - 2.90<br>fz (mm) | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel | P | 80 - 130 | 0.003 - 0.005 | 0.006 - 0.010 | 0.013 - 0.020 | - | ★★★ | ★★★ | ★★ | - |
| Acier<br>Stahl<br>Steel | P <600 N/mm² | 70 - 100 | 0.003 - 0.005 | 0.006 - 0.010 | 0.013 - 0.020 | - | ★★★ | ★★★ | ★★ | - |
| Acier<br>Stahl<br>Steel | P <800 N/mm² | 70 - 100 | 0.003 - 0.005 | 0.006 - 0.010 | 0.013 - 0.020 | - | ★★★ | ★★★ | ★★ | - |
| Acier<br>Stahl<br>Steel | P >800 N/mm² | 50 - 80 | 0.003 - 0.005 | 0.006 - 0.010 | 0.013 - 0.020 | - | ★★★ | ★★★ | ★★ | - |
| Acier trempé<br>Gehärteter Stahl -55HRC<br>Hardened steel | H | 60 - 90 | 0.001 - 0.002 | 0.003 - 0.005 | 0.007 - 0.010 | - | ★★★ | ★★★ | ★ | - |
| Acier trempé<br>Gehärteter Stahl +55HRC<br>Hardened steel | H | 40 - 70 | 0.001 - 0.002 | 0.003 - 0.005 | 0.007 - 0.010 | - | ★★★ | ★★★ | ★ | - |
| Inox<br>Rostfreistahl<br>Stainless steel | M | 40 - 80 | 0.003 - 0.005 | 0.006 - 0.010 | 0.013 - 0.020 | - | ★★★ | ★★★ | ★★ | - |
| Aluminium | N | 200 - 300 | 0.002 - 0.005 | 0.005 - 0.010 | 0.010 - 0.030 | ★★★ | - | - | ★★ | ★★★ |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | N | 100 - 200 | 0.001 - 0.005 | 0.006 - 0.010 | 0.010 - 0.015 | ★★★ | ★★ | ★★ | ★★ | ★★★ |
| Matière synthétique<br>Synthetisches Material<br>Synthetic material | N | 200 - 700 | 0.002 - 0.004 | 0.006 - 0.015 | 0.015 - 0.050 | ★★★ | ★★ | ★★ | ★★ | ★★★ |
| Métaux précieux<br>Edelmetalle<br>Precious metals | N | 90 - 140 | 0.002 - 0.003 | 0.004 - 0.012 | 0.012 - 0.025 | ★★★ | ★★ | ★★ | ★ | ★★★ |
| Titane<br>Titan<br>Titanium | S | 25 - 70 | 0.001 - 0.003 | 0.004 - 0.010 | 0.006 - 0.015 | - | ★★★ | ★★★ | ★★ | - |
| Alliage de nickel<br>Nickel-Legierung<br>Nickel alloy | S | 40 - 70 | 0.001 - 0.003 | 0.004 - 0.008 | 0.008 - 0.012 | - | ★★★ | ★★★ | ★★ | - |
| Matière exotique<br>Exotisches material<br>Exotic material | O | 15 - 25 | 0.001 - 0.002 | 0.003 - 0.005 | 0.006 - 0.010 | - | ★★★ | ★★★ | ★★ | ★★★ |

Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Datenum 20-30%erhöhen
With coating, increase data by20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Verygood
★★★ Excellent / Ausgezeichnet / Excellent

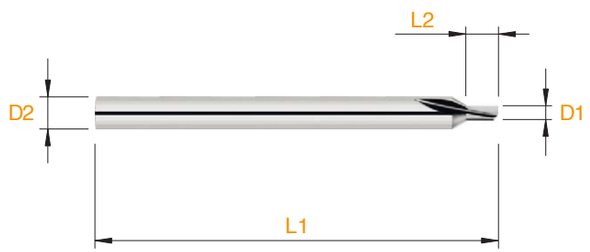
Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills






MD VHM HM | λ 0° | Sharp Corner | 2xD1 | Z=1

| D1 +0.005/ -0.010 | L2 | D2 h4 Ø3.0 h5 Ø4.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.20 | 0.40 | 3.00 | 39 | 3170-2-0.20 | ● | | | | |
| 0.30 | 0.60 | 3.00 | 39 | 3170-2-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.80 | 3.00 | 39 | 3170-2-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 3.00 | 39 | 3170-2-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 3.00 | 39 | 3170-2-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.40 | 3.00 | 39 | 3170-2-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 3.00 | 39 | 3170-2-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.80 | 3.00 | 39 | 3170-2-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 3.00 | 39 | 3170-2-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.20 | 3.00 | 39 | 3170-2-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 3.00 | 39 | 3170-2-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 2.60 | 3.00 | 39 | 3170-2-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.80 | 3.00 | 39 | 3170-2-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 3.00 | 39 | 3170-2-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 3.20 | 3.00 | 39 | 3170-2-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 3.40 | 3.00 | 39 | 3170-2-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 3.00 | 39 | 3170-2-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 3.80 | 3.00 | 39 | 3170-2-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 3.00 | 39 | 3170-2-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 4.20 | 3.00 | 39 | 3170-2-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 4.40 | 3.00 | 39 | 3170-2-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 4.60 | 3.00 | 39 | 3170-2-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 4.80 | 3.00 | 39 | 3170-2-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 5.00 | 3.00 | 39 | 3170-2-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 5.20 | 3.00 | 39 | 3170-2-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 5.40 | 3.00 | 39 | 3170-2-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 5.60 | 3.00 | 39 | 3170-2-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 5.80 | 3.00 | 39 | 3170-2-2.90 | ● | ● | ● | ● | ● |
| 3.00 | 6.00 | 4.00 | 40 | 3170-2-3.00 | ● | ● | ● | ● | ● |

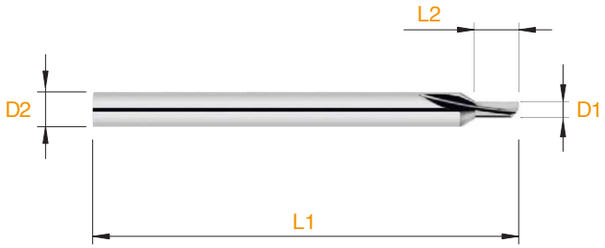



MD VHM HM | λ 0° | Sharp Corner | 2xD1 | Z=1

| D1 +0.005/ -0.010 | L2 | D2 h4 Ø3.0 h5 Ø4.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.20 | 0.40 | 3.00 | 39 | 3170R-2-0.20 | ● | | | | |
| 0.30 | 0.60 | 3.00 | 39 | 3170R-2-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.80 | 3.00 | 39 | 3170R-2-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 3.00 | 39 | 3170R-2-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 3.00 | 39 | 3170R-2-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.40 | 3.00 | 39 | 3170R-2-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 3.00 | 39 | 3170R-2-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.80 | 3.00 | 39 | 3170R-2-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 3.00 | 39 | 3170R-2-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.20 | 3.00 | 39 | 3170R-2-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 3.00 | 39 | 3170R-2-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 2.60 | 3.00 | 39 | 3170R-2-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.80 | 3.00 | 39 | 3170R-2-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 3.00 | 39 | 3170R-2-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 3.20 | 3.00 | 39 | 3170R-2-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 3.40 | 3.00 | 39 | 3170R-2-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 3.00 | 39 | 3170R-2-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 3.80 | 3.00 | 39 | 3170R-2-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 3.00 | 39 | 3170R-2-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 4.10 | 3.00 | 39 | 3170R-2-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 4.40 | 3.00 | 39 | 3170R-2-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 4.60 | 3.00 | 39 | 3170R-2-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 4.80 | 3.00 | 39 | 3170R-2-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 5.00 | 3.00 | 39 | 3170R-2-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 5.20 | 3.00 | 39 | 3170R-2-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 5.40 | 3.00 | 39 | 3170R-2-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 5.60 | 3.00 | 39 | 3170R-2-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 5.80 | 3.00 | 39 | 3170R-2-2.90 | ● | ● | ● | ● | ● |
| 3.00 | 6.00 | 4.00 | 40 | 3170R-2-3.00 | ● | ● | ● | ● | ● |

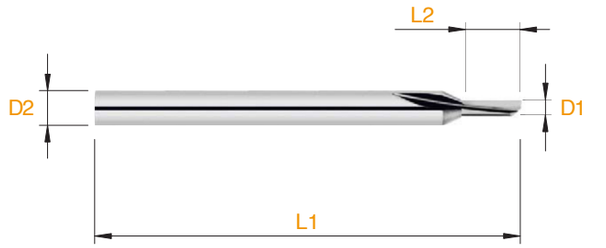
Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills





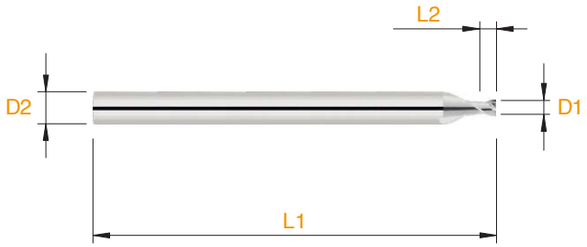

MD VHM HM | λ 0° | Sharp Corner | 3xD1 | Z=1

| D1 +0.005/ -0.010 | L2 | D2 h4 Ø3.0 h5 Ø4.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.20 | 0.60 | 3.00 | 39 | 3170R-3-0.20 | ● | | | | |
| 0.30 | 0.90 | 3.00 | 39 | 3170R-3-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 1.20 | 3.00 | 39 | 3170R-3-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.50 | 3.00 | 39 | 3170R-3-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.80 | 3.00 | 39 | 3170R-3-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 2.10 | 3.00 | 39 | 3170R-3-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 2.40 | 3.00 | 39 | 3170R-3-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 2.70 | 3.00 | 39 | 3170R-3-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 3.00 | 3.00 | 39 | 3170R-3-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 3.30 | 3.00 | 39 | 3170R-3-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 3.60 | 3.00 | 39 | 3170R-3-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 3.90 | 3.00 | 39 | 3170R-3-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 4.20 | 3.00 | 39 | 3170R-3-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 4.50 | 3.00 | 39 | 3170R-3-1.50 | ● | ● | ● | ● | ● |
| 2.00 | 6.00 | 3.00 | 39 | 3170R-3-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 7.50 | 3.00 | 39 | 3170R-3-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 9.00 | 4.00 | 40 | 3170R-3-3.00 | ● | ● | ● | ● | ● |




MD VHM HM | λ 0° | Sharp Corner | 4xD1 | Z=1

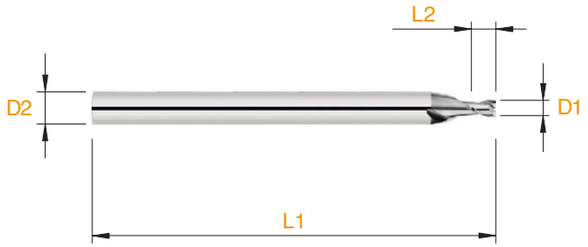
| D1 +0.005/ -0.010 | L2 | D2 h4 Ø3.0 h5 Ø4.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 1.20 | 3.00 | 39 | 3170R-4-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 1.60 | 3.00 | 39 | 3170R-4-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 2.00 | 3.00 | 39 | 3170R-4-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 2.40 | 3.00 | 39 | 3170R-4-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 2.80 | 3.00 | 39 | 3170R-4-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 3.20 | 3.00 | 39 | 3170R-4-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 3.60 | 3.00 | 39 | 3170R-4-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 4.00 | 3.00 | 39 | 3170R-4-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 4.40 | 3.00 | 39 | 3170R-4-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 4.80 | 3.00 | 39 | 3170R-4-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 5.20 | 3.00 | 39 | 3170R-4-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 5.60 | 3.00 | 39 | 3170R-4-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 6.00 | 3.00 | 39 | 3170R-4-1.50 | ● | ● | ● | ● | ● |
| 2.00 | 8.00 | 3.00 | 39 | 3170R-4-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 10.00 | 3.00 | 39 | 3170R-4-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 12.00 | 4.00 | 40 | 3170R-4-3.00 | ● | ● | ● | ● | ● |




MD VHM HM | λ 30° | Sharp Corner | 0.75xD1 | Z=2

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.20 | 0.15 | 3.00 | 39 | 3271-0.75-0.20 | ● | | | | |
| 0.30 | 0.25 | 3.00 | 39 | 3271-0.75-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.30 | 3.00 | 39 | 3271-0.75-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.37 | 3.00 | 39 | 3271-0.75-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.45 | 3.00 | 39 | 3271-0.75-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.53 | 3.00 | 39 | 3271-0.75-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.60 | 3.00 | 39 | 3271-0.75-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.70 | 3.00 | 39 | 3271-0.75-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.75 | 3.00 | 39 | 3271-0.75-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.90 | 3.00 | 39 | 3271-0.75-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 0.90 | 3.00 | 39 | 3271-0.75-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 1.00 | 3.00 | 39 | 3271-0.75-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 1.10 | 3.00 | 39 | 3271-0.75-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 1.15 | 3.00 | 39 | 3271-0.75-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 1.20 | 3.00 | 39 | 3271-0.75-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 1.30 | 3.00 | 39 | 3271-0.75-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 1.40 | 3.00 | 39 | 3271-0.75-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 1.45 | 3.00 | 39 | 3271-0.75-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 1.50 | 3.00 | 39 | 3271-0.75-2.00 | ● | ● | ● | ● | ● |



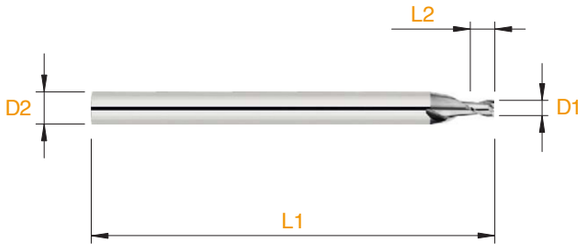



MD VHM HM | λ 30° | Sharp Corner | 1xD1 | Z=2

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.30 | 3.00 | 39 | 3271-1-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.40 | 3.00 | 39 | 3271-1-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.50 | 3.00 | 39 | 3271-1-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.60 | 3.00 | 39 | 3271-1-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.70 | 3.00 | 39 | 3271-1-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.80 | 3.00 | 39 | 3271-1-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.90 | 3.00 | 39 | 3271-1-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 1.00 | 3.00 | 39 | 3271-1-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 1.10 | 3.00 | 39 | 3271-1-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 1.20 | 3.00 | 39 | 3271-1-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 1.30 | 3.00 | 39 | 3271-1-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 1.40 | 3.00 | 39 | 3271-1-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 1.50 | 3.00 | 39 | 3271-1-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 1.60 | 3.00 | 39 | 3271-1-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 1.70 | 3.00 | 39 | 3271-1-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 1.80 | 3.00 | 39 | 3271-1-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 1.90 | 3.00 | 39 | 3271-1-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 2.00 | 3.00 | 39 | 3271-1-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 2.50 | 3.00 | 39 | 3271-1-2.50 | ● | ● | ● | ● | ● |

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills






MD
VHM
HM

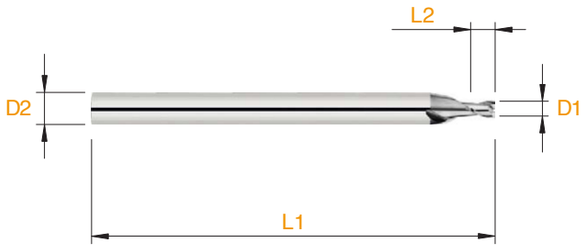
λ 30°

Sharp Corner

1.5xD1

Z=2

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.10 | 0.15 | 3.00 | 39 | 3271-1.5-0.10 | ● | | | | |
| 0.15 | 0.20 | 3.00 | 39 | 3271-1.5-0.15 | ● | | | | |
| 0.20 | 0.30 | 3.00 | 39 | 3271-1.5-0.20 | ● | | | | |
| 0.25 | 0.35 | 3.00 | 39 | 3271-1.5-0.25 | ● | | | | |
| 0.30 | 0.45 | 3.00 | 39 | 3271-1.5-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.60 | 3.00 | 39 | 3271-1.5-0.40 | ● | ● | ● | ● | ● |
| 0.45 | 0.70 | 3.00 | 39 | 3271-1.5-0.45 | ● | ● | ● | ● | ● |
| 0.50 | 0.75 | 3.00 | 39 | 3271-1.5-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.90 | 3.00 | 39 | 3271-1.5-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.05 | 3.00 | 39 | 3271-1.5-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.20 | 3.00 | 39 | 3271-1.5-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.35 | 3.00 | 39 | 3271-1.5-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 1.50 | 3.00 | 39 | 3271-1.5-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 1.65 | 3.00 | 39 | 3271-1.5-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 1.80 | 3.00 | 39 | 3271-1.5-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 1.95 | 3.00 | 39 | 3271-1.5-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.10 | 3.00 | 39 | 3271-1.5-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 2.25 | 3.00 | 39 | 3271-1.5-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 2.40 | 3.00 | 39 | 3271-1.5-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 2.55 | 3.00 | 39 | 3271-1.5-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 2.70 | 3.00 | 39 | 3271-1.5-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 2.85 | 3.00 | 39 | 3271-1.5-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 3.00 | 3.00 | 39 | 3271-1.5-2.00 | ● | ● | ● | ● | ● |




MD
VHM
HM

λ 30°

Sharp Corner

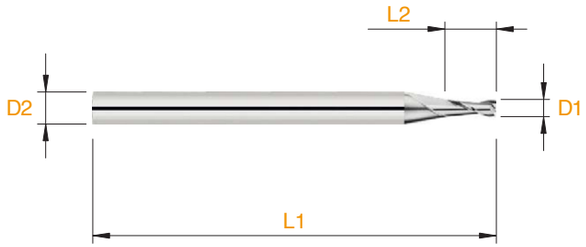
2xD1

Z=2

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.10 | 0.20 | 3.00 | 39 | 3271-2-0.10 | ● | | | | |
| 0.15 | 0.30 | 3.00 | 39 | 3271-2-0.15 | ● | | | | |
| 0.20 | 0.40 | 3.00 | 39 | 3271-2-0.20 | ● | | | | |
| 0.25 | 0.50 | 3.00 | 39 | 3271-2-0.25 | ● | | | | |
| 0.30 | 0.60 | 3.00 | 39 | 3271-2-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.80 | 3.00 | 39 | 3271-2-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 3.00 | 39 | 3271-2-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 3.00 | 39 | 3271-2-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.40 | 3.00 | 39 | 3271-2-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 3.00 | 39 | 3271-2-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.80 | 3.00 | 39 | 3271-2-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 3.00 | 39 | 3271-2-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.20 | 3.00 | 39 | 3271-2-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 3.00 | 39 | 3271-2-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 2.60 | 3.00 | 39 | 3271-2-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.80 | 3.00 | 39 | 3271-2-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 3.00 | 39 | 3271-2-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 3.20 | 3.00 | 39 | 3271-2-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 3.40 | 3.00 | 39 | 3271-2-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 3.00 | 39 | 3271-2-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 3.80 | 3.00 | 39 | 3271-2-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 3.00 | 39 | 3271-2-2.00 | ● | ● | ● | ● | ● |

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

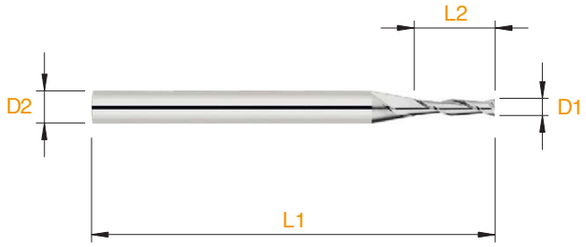





MD VHM HM | λ 30° | Sharp Corner | 3xD1 | Z=2

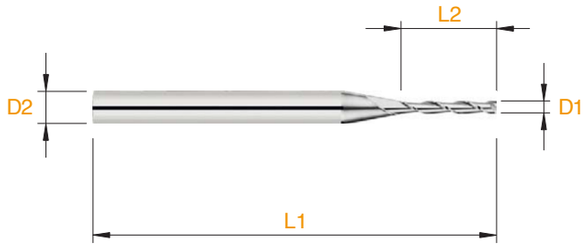
| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.10 | 0.25 | 3.00 | 39 | 3271-3-0.10 | ● | | | | |
| 0.15 | 0.45 | 3.00 | 39 | 3271-3-0.15 | ● | | | | |
| 0.20 | 0.50 | 3.00 | 39 | 3271-3-0.20 | ● | | | | |
| 0.25 | 0.75 | 3.00 | 39 | 3271-3-0.25 | ● | | | | |
| 0.30 | 1.00 | 3.00 | 39 | 3271-3-0.30 | ● | ● | ● | ● | ● |
| 0.35 | 1.10 | 3.00 | 39 | 3271-3-0.35 | ● | ● | ● | ● | ● |
| 0.40 | 1.20 | 3.00 | 39 | 3271-3-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.50 | 3.00 | 39 | 3271-3-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 2.00 | 3.00 | 39 | 3271-3-0.60 | ● | ● | ● | ● | ● |
| 0.65 | 2.00 | 3.00 | 39 | 3271-3-0.65 | ● | ● | ● | ● | ● |
| 0.70 | 2.00 | 3.00 | 39 | 3271-3-0.70 | ● | ● | ● | ● | ● |
| 0.75 | 2.00 | 3.00 | 39 | 3271-3-0.75 | ● | ● | ● | ● | ● |
| 0.80 | 2.50 | 3.00 | 39 | 3271-3-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 2.50 | 3.00 | 39 | 3271-3-0.90 | ● | ● | ● | ● | ● |
| 0.95 | 3.00 | 3.00 | 39 | 3271-3-0.95 | ● | ● | ● | ● | ● |
| 1.00 | 3.00 | 3.00 | 39 | 3271-3-1.00 | ● | ● | ● | ● | ● |
| 1.05 | 3.00 | 3.00 | 39 | 3271-3-1.05 | ● | ● | ● | ● | ● |
| 1.10 | 3.00 | 3.00 | 39 | 3271-3-1.10 | ● | ● | ● | ● | ● |
| 1.15 | 3.50 | 3.00 | 39 | 3271-3-1.15 | ● | ● | ● | ● | ● |
| 1.20 | 4.00 | 3.00 | 39 | 3271-3-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 4.00 | 3.00 | 39 | 3271-3-1.30 | ● | ● | ● | ● | ● |
| 1.35 | 4.00 | 3.00 | 39 | 3271-3-1.35 | ● | ● | ● | ● | ● |
| 1.40 | 4.00 | 3.00 | 39 | 3271-3-1.40 | ● | ● | ● | ● | ● |
| 1.45 | 4.40 | 3.00 | 39 | 3271-3-1.45 | ● | ● | ● | ● | ● |
| 1.50 | 4.50 | 3.00 | 39 | 3271-3-1.50 | ● | ● | ● | ● | ● |
| 1.55 | 4.50 | 3.00 | 39 | 3271-3-1.55 | ● | ● | ● | ● | ● |
| 1.60 | 4.50 | 3.00 | 39 | 3271-3-1.60 | ● | ● | ● | ● | ● |
| 1.65 | 5.00 | 3.00 | 39 | 3271-3-1.65 | ● | ● | ● | ● | ● |
| 1.70 | 5.00 | 3.00 | 39 | 3271-3-1.70 | ● | ● | ● | ● | ● |
| 1.75 | 5.30 | 3.00 | 39 | 3271-3-1.75 | ● | ● | ● | ● | ● |

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 1.80 | 6.00 | 3.00 | 39 | 3271-3-1.80 | ● | ● | ● | ● | ● |
| 1.85 | 6.00 | 3.00 | 39 | 3271-3-1.85 | ● | ● | ● | ● | ● |
| 1.90 | 6.00 | 3.00 | 39 | 3271-3-1.90 | ● | ● | ● | ● | ● |
| 1.95 | 6.00 | 3.00 | 39 | 3271-3-1.95 | ● | ● | ● | ● | ● |
| 2.00 | 6.00 | 3.00 | 39 | 3271-3-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 6.00 | 3.00 | 39 | 3271-3-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 6.50 | 3.00 | 39 | 3271-3-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 7.00 | 3.00 | 39 | 3271-3-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 7.00 | 3.00 | 39 | 3271-3-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 7.50 | 3.00 | 39 | 3271-3-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 7.50 | 3.00 | 39 | 3271-3-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 8.00 | 3.00 | 39 | 3271-3-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 8.00 | 3.00 | 39 | 3271-3-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 8.00 | 3.00 | 39 | 3271-3-2.90 | ● | ● | ● | ● | ● |




MD VHM HM | λ 30° | Sharp Corner | 5xD1 | Z=2

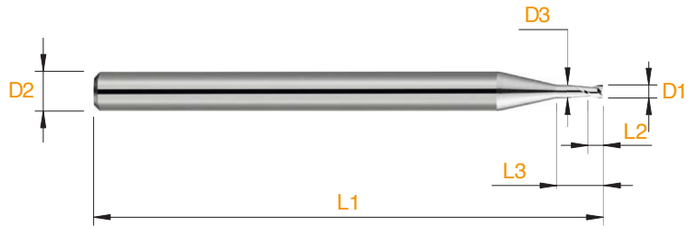
| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 1.50 | 3.00 | 39 | 3271-5-0.30 | ● | ● | ● | ● | ● |
| 0.35 | 1.80 | 3.00 | 39 | 3271-5-0.35 | ● | ● | ● | ● | ● |
| 0.40 | 2.00 | 3.00 | 39 | 3271-5-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 2.50 | 3.00 | 39 | 3271-5-0.50 | ● | ● | ● | ● | ● |
| 0.55 | 2.80 | 3.00 | 39 | 3271-5-0.55 | ● | ● | ● | ● | ● |
| 0.60 | 3.00 | 3.00 | 39 | 3271-5-0.60 | ● | ● | ● | ● | ● |
| 0.65 | 3.30 | 3.00 | 39 | 3271-5-0.65 | ● | ● | ● | ● | ● |
| 0.70 | 3.50 | 3.00 | 39 | 3271-5-0.70 | ● | ● | ● | ● | ● |
| 0.75 | 3.80 | 3.00 | 39 | 3271-5-0.75 | ● | ● | ● | ● | ● |
| 0.80 | 4.00 | 3.00 | 39 | 3271-5-0.80 | ● | ● | ● | ● | ● |
| 0.85 | 4.30 | 3.00 | 39 | 3271-5-0.85 | ● | ● | ● | ● | ● |
| 0.90 | 4.50 | 3.00 | 39 | 3271-5-0.90 | ● | ● | ● | ● | ● |
| 0.95 | 4.80 | 3.00 | 39 | 3271-5-0.95 | ● | ● | ● | ● | ● |
| 1.00 | 5.00 | 3.00 | 39 | 3271-5-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 5.50 | 3.00 | 39 | 3271-5-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 6.00 | 3.00 | 39 | 3271-5-1.20 | ● | ● | ● | ● | ● |
| 1.50 | 7.50 | 3.00 | 39 | 3271-5-1.50 | ● | ● | ● | ● | ● |
| 2.00 | 10.00 | 3.00 | 39 | 3271-5-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 12.50 | 3.00 | 39 | 3271-5-2.50 | ● | ● | ● | ● | ● |




MD VHM HM | λ 30° | Sharp Corner | 8xD1 | Z=2

| D1 +0.005/ -0.010 | L2 | D2 h4 Ø3.0 h5 Ø4.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.40 | 3.20 | 3.00 | 39 | 3271-8-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 4.00 | 3.00 | 39 | 3271-8-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 5.00 | 3.00 | 39 | 3271-8-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 5.60 | 3.00 | 39 | 3271-8-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 6.00 | 3.00 | 39 | 3271-8-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 7.20 | 3.00 | 39 | 3271-8-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 8.00 | 3.00 | 39 | 3271-8-1.00 | ● | ● | ● | ● | ● |
| 1.20 | 9.00 | 3.00 | 39 | 3271-8-1.20 | ● | ● | ● | ● | ● |
| 1.50 | 12.00 | 4.00 | 50 | 3271-8-1.50 | ● | ● | ● | ● | ● |
| 2.00 | 16.00 | 4.00 | 50 | 3271-8-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 20.00 | 4.00 | 50 | 3271-8-2.50 | ● | ● | ● | ● | ● |






MD VHM HM | λ 30° | Sharp Corner | L3 3xD1 | Z=2

| D1 +0.005/ -0.010 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.20 | 0.40 | 0.60 | 0.17 | 3.00 | 39 | 3270S-3X-0.20 | ● | | | | |
| 0.30 | 0.60 | 0.90 | 0.27 | 3.00 | 39 | 3270S-3X-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.80 | 1.20 | 0.37 | 3.00 | 39 | 3270S-3X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 1.50 | 0.45 | 3.00 | 39 | 3270S-3X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 1.80 | 0.55 | 3.00 | 39 | 3270S-3X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.40 | 2.10 | 0.65 | 3.00 | 39 | 3270S-3X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 2.40 | 0.75 | 3.00 | 39 | 3270S-3X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.80 | 2.70 | 0.85 | 3.00 | 39 | 3270S-3X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 3.00 | 0.95 | 3.00 | 39 | 3270S-3X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.20 | 3.30 | 1.05 | 3.00 | 39 | 3270S-3X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 3.60 | 1.15 | 3.00 | 39 | 3270S-3X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 2.60 | 3.90 | 1.25 | 3.00 | 39 | 3270S-3X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.80 | 4.20 | 1.35 | 3.00 | 39 | 3270S-3X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 4.50 | 1.45 | 3.00 | 39 | 3270S-3X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 3.20 | 4.80 | 1.55 | 3.00 | 39 | 3270S-3X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 3.40 | 5.10 | 1.65 | 3.00 | 39 | 3270S-3X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 5.40 | 1.75 | 3.00 | 39 | 3270S-3X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 3.80 | 5.70 | 1.85 | 3.00 | 39 | 3270S-3X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 6.00 | 1.95 | 6.00 | 50 | 3270S-3X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 4.20 | 6.30 | 2.05 | 6.00 | 50 | 3270S-3X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 4.40 | 6.60 | 2.15 | 6.00 | 50 | 3270S-3X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 4.60 | 6.90 | 2.25 | 6.00 | 50 | 3270S-3X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 4.80 | 7.20 | 2.35 | 6.00 | 50 | 3270S-3X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 5.00 | 7.50 | 2.45 | 6.00 | 50 | 3270S-3X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 6.00 | 9.00 | 2.95 | 6.00 | 50 | 3270S-3X-3.00 | ● | ● | ● | ● | ● |




MD VHM HM | λ 30° | Sharp Corner | L3 6xD1 | Z=2

| D1 +0.005/ -0.010 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.60 | 1.80 | 0.27 | 3.00 | 39 | 3270S-6X-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.80 | 2.40 | 0.37 | 3.00 | 39 | 3270S-6X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 3.00 | 0.45 | 3.00 | 39 | 3270S-6X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 3.60 | 0.55 | 3.00 | 39 | 3270S-6X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.40 | 4.20 | 0.65 | 3.00 | 39 | 3270S-6X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 4.80 | 0.75 | 3.00 | 39 | 3270S-6X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.80 | 5.40 | 0.85 | 3.00 | 39 | 3270S-6X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 6.00 | 0.95 | 3.00 | 39 | 3270S-6X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.20 | 6.60 | 1.05 | 3.00 | 39 | 3270S-6X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 7.20 | 1.15 | 3.00 | 39 | 3270S-6X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 2.60 | 7.80 | 1.25 | 3.00 | 39 | 3270S-6X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.80 | 8.40 | 1.35 | 3.00 | 39 | 3270S-6X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 9.00 | 1.45 | 3.00 | 39 | 3270S-6X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 3.20 | 9.60 | 1.55 | 3.00 | 39 | 3270S-6X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 3.40 | 10.20 | 1.65 | 3.00 | 39 | 3270S-6X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 10.80 | 1.75 | 3.00 | 39 | 3270S-6X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 3.80 | 11.40 | 1.85 | 3.00 | 39 | 3270S-6X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 12.00 | 1.95 | 6.00 | 50 | 3270S-6X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 4.20 | 12.60 | 2.05 | 6.00 | 50 | 3270S-6X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 4.40 | 13.20 | 2.15 | 6.00 | 50 | 3270S-6X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 4.60 | 13.80 | 2.25 | 6.00 | 50 | 3270S-6X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 4.80 | 14.40 | 2.35 | 6.00 | 50 | 3270S-6X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 5.00 | 15.00 | 2.45 | 6.00 | 50 | 3270S-6X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 6.00 | 18.00 | 2.95 | 6.00 | 50 | 3270S-6X-3.00 | ● | ● | ● | ● | ● |








MD VHM HM | λ 30° | Sharp Corner | L3 9xD1 | Z=2

| D1 +0.005/ -0.010 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.40 | 0.80 | 3.60 | 0.37 | 3.00 | 39 | 3270S-9X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 4.50 | 0.45 | 3.00 | 39 | 3270S-9X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 5.40 | 0.55 | 3.00 | 39 | 3270S-9X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.40 | 6.30 | 0.65 | 3.00 | 39 | 3270S-9X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 7.20 | 0.75 | 3.00 | 39 | 3270S-9X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.80 | 8.10 | 0.85 | 3.00 | 39 | 3270S-9X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 9.00 | 0.95 | 3.00 | 39 | 3270S-9X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.20 | 9.90 | 1.05 | 3.00 | 39 | 3270S-9X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 10.80 | 1.15 | 3.00 | 39 | 3270S-9X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 2.60 | 11.70 | 1.25 | 3.00 | 39 | 3270S-9X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.80 | 12.60 | 1.35 | 3.00 | 39 | 3270S-9X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 13.50 | 1.45 | 3.00 | 39 | 3270S-9X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 3.20 | 14.40 | 1.55 | 3.00 | 39 | 3270S-9X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 3.40 | 15.30 | 1.65 | 3.00 | 39 | 3270S-9X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 16.20 | 1.75 | 3.00 | 39 | 3270S-9X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 3.80 | 17.10 | 1.85 | 3.00 | 39 | 3270S-9X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 18.00 | 1.95 | 6.00 | 50 | 3270S-9X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 4.20 | 18.90 | 2.05 | 6.00 | 50 | 3270S-9X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 4.40 | 19.80 | 2.15 | 6.00 | 50 | 3270S-9X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 4.60 | 20.70 | 2.25 | 6.00 | 50 | 3270S-9X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 4.80 | 21.60 | 2.35 | 6.00 | 50 | 3270S-9X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 5.00 | 22.50 | 2.45 | 6.00 | 50 | 3270S-9X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 6.00 | 27.00 | 2.95 | 6.00 | 50 | 3270S-9X-3.00 | ● | ● | ● | ● | ● |



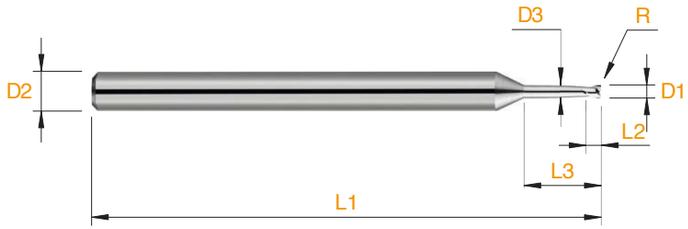

MD VHM HM | λ 30° | Radius Corner | L3 3xD1 | Z=2

| D1 +0.005/ -0.010 | R +/- 0.02 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.05 | 0.60 | 0.90 | 0.27 | 3.00 | 39 | 3279T-3X-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.05 | 0.80 | 1.20 | 0.37 | 3.00 | 39 | 3279T-3X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.05 | 1.00 | 1.50 | 0.45 | 3.00 | 39 | 3279T-3X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.05 | 1.20 | 1.80 | 0.55 | 3.00 | 39 | 3279T-3X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.05 | 1.40 | 2.10 | 0.65 | 3.00 | 39 | 3279T-3X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.05 | 1.60 | 2.40 | 0.75 | 3.00 | 39 | 3279T-3X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.05 | 1.80 | 2.70 | 0.85 | 3.00 | 39 | 3279T-3X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.10 | 2.00 | 3.00 | 0.95 | 3.00 | 39 | 3279T-3X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.10 | 2.20 | 3.30 | 1.05 | 3.00 | 39 | 3279T-3X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 0.10 | 2.40 | 3.60 | 1.15 | 3.00 | 39 | 3279T-3X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.10 | 2.60 | 3.90 | 1.25 | 3.00 | 39 | 3279T-3X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.10 | 2.80 | 4.20 | 1.35 | 3.00 | 39 | 3279T-3X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.20 | 3.00 | 4.50 | 1.45 | 3.00 | 39 | 3279T-3X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 0.20 | 3.20 | 4.80 | 1.55 | 3.00 | 39 | 3279T-3X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 0.20 | 3.40 | 5.10 | 1.65 | 3.00 | 39 | 3279T-3X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 0.20 | 3.60 | 5.40 | 1.75 | 3.00 | 39 | 3279T-3X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 0.20 | 3.80 | 5.70 | 1.85 | 3.00 | 39 | 3279T-3X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 0.20 | 4.00 | 6.00 | 1.95 | 6.00 | 50 | 3279T-3X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 0.20 | 4.20 | 6.30 | 2.05 | 6.00 | 50 | 3279T-3X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 0.20 | 4.40 | 6.60 | 2.15 | 6.00 | 50 | 3279T-3X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 0.20 | 4.60 | 6.90 | 2.25 | 6.00 | 50 | 3279T-3X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 0.20 | 4.80 | 7.20 | 2.35 | 6.00 | 50 | 3279T-3X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 0.20 | 5.00 | 7.50 | 2.45 | 6.00 | 50 | 3279T-3X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 0.20 | 6.00 | 9.00 | 2.95 | 6.00 | 50 | 3279T-3X-3.00 | ● | ● | ● | ● | ● |



Zurück zum Kapitelanfang






MD VHM HM | λ 30° | Radius Corner | L3 6xD1 | Z=2

| D1 +0.005/ -0.010 | R +/- 0.02 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.05 | 0.60 | 1.80 | 0.27 | 3.00 | 39 | 3279T-6X-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.05 | 0.80 | 2.40 | 0.37 | 3.00 | 39 | 3279T-6X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.05 | 1.00 | 3.00 | 0.45 | 3.00 | 39 | 3279T-6X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.05 | 1.20 | 3.60 | 0.55 | 3.00 | 39 | 3279T-6X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.05 | 1.40 | 4.20 | 0.65 | 3.00 | 39 | 3279T-6X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.05 | 1.60 | 4.80 | 0.75 | 3.00 | 39 | 3279T-6X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.05 | 1.80 | 5.40 | 0.85 | 3.00 | 39 | 3279T-6X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.10 | 2.00 | 6.00 | 0.95 | 3.00 | 39 | 3279T-6X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.10 | 2.20 | 6.60 | 1.05 | 3.00 | 39 | 3279T-6X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 0.10 | 2.40 | 7.20 | 1.15 | 3.00 | 39 | 3279T-6X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.10 | 2.60 | 7.80 | 1.25 | 3.00 | 39 | 3279T-6X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.10 | 2.80 | 8.40 | 1.35 | 3.00 | 39 | 3279T-6X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.20 | 3.00 | 9.00 | 1.45 | 3.00 | 39 | 3279T-6X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 0.20 | 3.20 | 9.60 | 1.55 | 3.00 | 39 | 3279T-6X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 0.20 | 3.40 | 10.20 | 1.65 | 3.00 | 39 | 3279T-6X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 0.20 | 3.60 | 10.80 | 1.75 | 3.00 | 39 | 3279T-6X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 0.20 | 3.80 | 11.40 | 1.85 | 3.00 | 39 | 3279T-6X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 0.20 | 4.00 | 12.00 | 1.95 | 6.00 | 50 | 3279T-6X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 0.20 | 4.20 | 12.60 | 2.05 | 6.00 | 50 | 3279T-6X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 0.20 | 4.40 | 13.20 | 2.15 | 6.00 | 50 | 3279T-6X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 0.20 | 4.60 | 13.80 | 2.25 | 6.00 | 50 | 3279T-6X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 0.20 | 4.80 | 14.40 | 2.35 | 6.00 | 50 | 3279T-6X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 0.20 | 5.00 | 15.00 | 2.45 | 6.00 | 50 | 3279T-6X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 0.20 | 6.00 | 18.00 | 2.95 | 6.00 | 50 | 3279T-6X-3.00 | ● | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request




MD VHM HM | λ 30° | Radius Corner | L3 9xD1 | Z=2

| D1 +0.005/ -0.010 | R +/- 0.02 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.40 | 0.05 | 0.80 | 3.60 | 0.37 | 3.00 | 39 | 3279T-9X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.05 | 1.00 | 4.50 | 0.45 | 3.00 | 39 | 3279T-9X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.05 | 1.20 | 5.40 | 0.55 | 3.00 | 39 | 3279T-9X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.05 | 1.40 | 6.30 | 0.65 | 3.00 | 39 | 3279T-9X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.05 | 1.60 | 7.20 | 0.75 | 3.00 | 39 | 3279T-9X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.05 | 1.80 | 8.10 | 0.85 | 3.00 | 39 | 3279T-9X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.10 | 2.00 | 9.00 | 0.95 | 3.00 | 39 | 3279T-9X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.10 | 2.20 | 9.90 | 1.05 | 3.00 | 39 | 3279T-9X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 0.10 | 2.40 | 10.80 | 1.15 | 3.00 | 39 | 3279T-9X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.10 | 2.60 | 11.70 | 1.25 | 3.00 | 39 | 3279T-9X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.10 | 2.80 | 12.60 | 1.35 | 3.00 | 39 | 3279T-9X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.20 | 3.00 | 13.50 | 1.45 | 3.00 | 39 | 3279T-9X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 0.20 | 3.20 | 14.40 | 1.55 | 3.00 | 39 | 3279T-9X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 0.20 | 3.40 | 15.30 | 1.65 | 3.00 | 39 | 3279T-9X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 0.20 | 3.60 | 16.20 | 1.75 | 3.00 | 39 | 3279T-9X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 0.20 | 3.80 | 17.10 | 1.85 | 3.00 | 39 | 3279T-9X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 0.20 | 4.00 | 18.00 | 1.95 | 6.00 | 50 | 3279T-9X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 0.20 | 4.20 | 18.90 | 2.05 | 6.00 | 50 | 3279T-9X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 0.20 | 4.40 | 19.80 | 2.15 | 6.00 | 50 | 3279T-9X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 0.20 | 4.60 | 20.70 | 2.25 | 6.00 | 50 | 3279T-9X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 0.20 | 4.80 | 21.60 | 2.35 | 6.00 | 50 | 3279T-9X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 0.20 | 5.00 | 22.50 | 2.45 | 6.00 | 50 | 3279T-9X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 0.20 | 6.00 | 27.00 | 2.95 | 6.00 | 50 | 3279T-9X-3.00 | ● | ● | ● | ● | ● |



Zurück zum Kapitelanfang





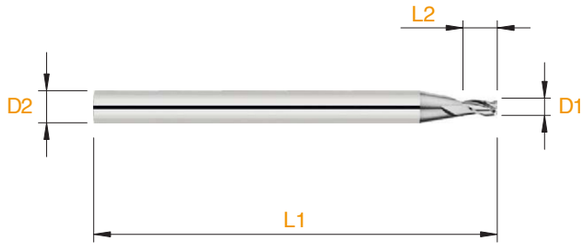

MD VHM HM | λ 30° | Sharp Corner | 1.3xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.40 | 3.00 | 39 | 3371-1.3-0.30 | ● | ● | ● | ● | ● |
| 0.35 | 0.50 | 3.00 | 39 | 3371-1.3-0.35 | ● | ● | ● | ● | ● |
| 0.40 | 0.50 | 3.00 | 39 | 3371-1.3-0.40 | ● | ● | ● | ● | ● |
| 0.45 | 0.60 | 3.00 | 39 | 3371-1.3-0.45 | ● | ● | ● | ● | ● |
| 0.50 | 0.70 | 3.00 | 39 | 3371-1.3-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.80 | 3.00 | 39 | 3371-1.3-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.90 | 3.00 | 39 | 3371-1.3-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.00 | 3.00 | 39 | 3371-1.3-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.30 | 3.00 | 39 | 3371-1.3-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 1.30 | 3.00 | 39 | 3371-1.3-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 1.50 | 3.00 | 39 | 3371-1.3-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 1.60 | 3.00 | 39 | 3371-1.3-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 1.80 | 3.00 | 39 | 3371-1.3-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 1.80 | 3.00 | 39 | 3371-1.3-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 2.00 | 3.00 | 39 | 3371-1.3-1.50 | ● | ● | ● | ● | ● |
| 1.55 | 2.00 | 3.00 | 39 | 3371-1.3-1.55 | ● | ● | ● | ● | ● |
| 1.60 | 2.00 | 3.00 | 39 | 3371-1.3-1.60 | ● | ● | ● | ● | ● |
| 1.65 | 2.00 | 3.00 | 39 | 3371-1.3-1.65 | ● | ● | ● | ● | ● |
| 1.70 | 2.00 | 3.00 | 39 | 3371-1.3-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 2.40 | 3.00 | 39 | 3371-1.3-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 2.40 | 3.00 | 39 | 3371-1.3-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 2.60 | 3.00 | 39 | 3371-1.3-2.00 | ● | ● | ● | ● | ● |
| 2.05 | 2.70 | 3.00 | 39 | 3371-1.3-2.05 | ● | ● | ● | ● | ● |
| 2.20 | 3.00 | 3.00 | 39 | 3371-1.3-2.20 | ● | ● | ● | ● | ● |
| 2.50 | 3.30 | 3.00 | 39 | 3371-1.3-2.50 | ● | ● | ● | ● | ● |
| 2.80 | 3.50 | 3.00 | 39 | 3371-1.3-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 3.50 | 3.00 | 39 | 3371-1.3-2.90 | ● | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request

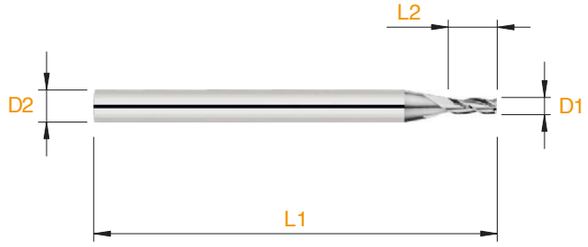
Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills






MD VHM HM | λ 30° | Sharp Corner | 2xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.60 | 3.00 | 39 | 3371-2-0.30 | ● | ● | ● | ● | ● |
| 0.35 | 0.70 | 3.00 | 39 | 3371-2-0.35 | ● | ● | ● | ● | ● |
| 0.40 | 0.80 | 3.00 | 39 | 3371-2-0.40 | ● | ● | ● | ● | ● |
| 0.45 | 0.90 | 3.00 | 39 | 3371-2-0.45 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 3.00 | 39 | 3371-2-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 3.00 | 39 | 3371-2-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.40 | 3.00 | 39 | 3371-2-0.70 | ● | ● | ● | ● | ● |
| 0.75 | 1.50 | 3.00 | 39 | 3371-2-0.75 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 3.00 | 39 | 3371-2-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.80 | 3.00 | 39 | 3371-2-0.90 | ● | ● | ● | ● | ● |
| 0.95 | 1.90 | 3.00 | 39 | 3371-2-0.95 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 3.00 | 39 | 3371-2-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.20 | 3.00 | 39 | 3371-2-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 3.00 | 39 | 3371-2-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 2.60 | 3.00 | 39 | 3371-2-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.80 | 3.00 | 39 | 3371-2-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 3.00 | 39 | 3371-2-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 3.20 | 3.00 | 39 | 3371-2-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 3.40 | 3.00 | 39 | 3371-2-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 3.00 | 39 | 3371-2-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 3.80 | 3.00 | 39 | 3371-2-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 3.00 | 39 | 3371-2-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 4.20 | 3.00 | 39 | 3371-2-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 4.40 | 3.00 | 39 | 3371-2-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 4.60 | 3.00 | 39 | 3371-2-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 4.80 | 3.00 | 39 | 3371-2-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 5.00 | 3.00 | 39 | 3371-2-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 5.20 | 3.00 | 39 | 3371-2-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 5.40 | 3.00 | 39 | 3371-2-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 5.60 | 3.00 | 39 | 3371-2-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 5.80 | 3.00 | 39 | 3371-2-2.90 | ● | ● | ● | ● | ● |



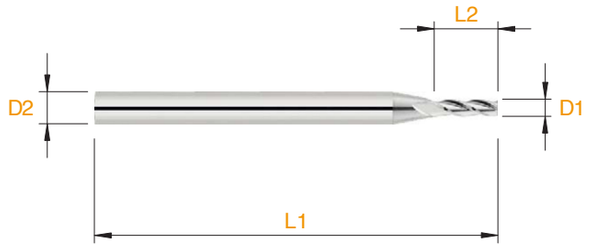

MD VHM HM | λ 30° | Sharp Corner | 3xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.90 | 3.00 | 39 | 3371-3-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 1.20 | 3.00 | 39 | 3371-3-0.40 | ● | ● | ● | ● | ● |
| 0.45 | 1.40 | 3.00 | 39 | 3371-3-0.45 | ● | ● | ● | ● | ● |
| 0.50 | 1.50 | 3.00 | 39 | 3371-3-0.50 | ● | ● | ● | ● | ● |
| 0.55 | 1.80 | 3.00 | 39 | 3371-3-0.55 | ● | ● | ● | ● | ● |
| 0.60 | 2.00 | 3.00 | 39 | 3371-3-0.60 | ● | ● | ● | ● | ● |
| 0.65 | 2.00 | 3.00 | 39 | 3371-3-0.65 | ● | ● | ● | ● | ● |
| 0.70 | 2.00 | 3.00 | 39 | 3371-3-0.70 | ● | ● | ● | ● | ● |
| 0.75 | 2.00 | 3.00 | 39 | 3371-3-0.75 | ● | ● | ● | ● | ● |
| 0.80 | 2.50 | 3.00 | 39 | 3371-3-0.80 | ● | ● | ● | ● | ● |
| 0.85 | 2.50 | 3.00 | 39 | 3371-3-0.85 | ● | ● | ● | ● | ● |
| 0.90 | 2.50 | 3.00 | 39 | 3371-3-0.90 | ● | ● | ● | ● | ● |
| 0.95 | 2.90 | 3.00 | 39 | 3371-3-0.95 | ● | ● | ● | ● | ● |
| 1.00 | 3.00 | 3.00 | 39 | 3371-3-1.00 | ● | ● | ● | ● | ● |
| 1.05 | 3.20 | 3.00 | 39 | 3371-3-1.05 | ● | ● | ● | ● | ● |
| 1.10 | 3.30 | 3.00 | 39 | 3371-3-1.10 | ● | ● | ● | ● | ● |
| 1.15 | 3.50 | 3.00 | 39 | 3371-3-1.15 | ● | ● | ● | ● | ● |
| 1.20 | 4.00 | 3.00 | 39 | 3371-3-1.20 | ● | ● | ● | ● | ● |
| 1.25 | 4.00 | 3.00 | 39 | 3371-3-1.25 | ● | ● | ● | ● | ● |
| 1.30 | 4.00 | 3.00 | 39 | 3371-3-1.30 | ● | ● | ● | ● | ● |
| 1.35 | 4.00 | 3.00 | 39 | 3371-3-1.35 | ● | ● | ● | ● | ● |
| 1.40 | 4.00 | 3.00 | 39 | 3371-3-1.40 | ● | ● | ● | ● | ● |
| 1.45 | 4.50 | 3.00 | 39 | 3371-3-1.45 | ● | ● | ● | ● | ● |
| 1.50 | 4.50 | 3.00 | 39 | 3371-3-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 4.50 | 3.00 | 39 | 3371-3-1.60 | ● | ● | ● | ● | ● |
| 1.65 | 5.00 | 3.00 | 39 | 3371-3-1.65 | ● | ● | ● | ● | ● |
| 1.70 | 5.00 | 3.00 | 39 | 3371-3-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 6.00 | 3.00 | 39 | 3371-3-1.80 | ● | ● | ● | ● | ● |
| 1.85 | 6.00 | 3.00 | 39 | 3371-3-1.85 | ● | ● | ● | ● | ● |
| 1.90 | 6.00 | 3.00 | 39 | 3371-3-1.90 | ● | ● | ● | ● | ● |
| 1.95 | 6.00 | 3.00 | 39 | 3371-3-1.95 | ● | ● | ● | ● | ● |

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 6.00 | 3.00 | 39 | 3371-3-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 6.00 | 3.00 | 39 | 3371-3-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 6.50 | 3.00 | 39 | 3371-3-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 7.00 | 3.00 | 39 | 3371-3-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 7.00 | 3.00 | 39 | 3371-3-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 7.50 | 3.00 | 39 | 3371-3-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 7.50 | 3.00 | 39 | 3371-3-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 8.00 | 3.00 | 39 | 3371-3-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 8.00 | 3.00 | 39 | 3371-3-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 8.50 | 3.00 | 39 | 3371-3-2.90 | ● | ● | ● | ● | ● |

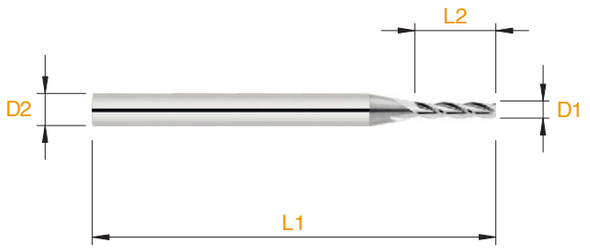
Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills





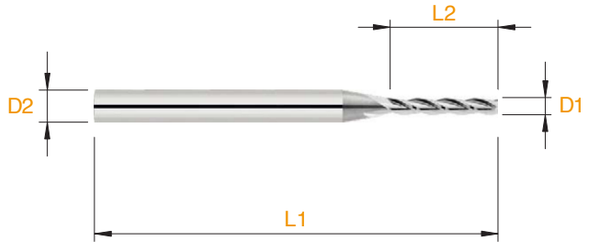

MD VHM HM | λ 30° | Sharp Corner | 4xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 1.20 | 3.00 | 39 | 3371-4-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 1.60 | 3.00 | 39 | 3371-4-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 2.00 | 3.00 | 39 | 3371-4-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 2.40 | 3.00 | 39 | 3371-4-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 2.80 | 3.00 | 39 | 3371-4-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 3.20 | 3.00 | 39 | 3371-4-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 3.60 | 3.00 | 39 | 3371-4-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 4.00 | 3.00 | 39 | 3371-4-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 4.40 | 3.00 | 39 | 3371-4-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 4.80 | 3.00 | 39 | 3371-4-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 5.20 | 3.00 | 39 | 3371-4-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 5.60 | 3.00 | 39 | 3371-4-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 6.00 | 3.00 | 39 | 3371-4-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 6.40 | 3.00 | 39 | 3371-4-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 6.80 | 3.00 | 39 | 3371-4-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 7.20 | 3.00 | 39 | 3371-4-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 7.60 | 3.00 | 39 | 3371-4-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 8.00 | 3.00 | 39 | 3371-4-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 8.40 | 3.00 | 39 | 3371-4-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 8.80 | 3.00 | 39 | 3371-4-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 9.20 | 3.00 | 39 | 3371-4-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 9.60 | 3.00 | 39 | 3371-4-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 10.00 | 3.00 | 39 | 3371-4-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 10.40 | 3.00 | 39 | 3371-4-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 10.80 | 3.00 | 39 | 3371-4-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 11.20 | 3.00 | 39 | 3371-4-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 11.60 | 3.00 | 39 | 3371-4-2.90 | ● | ● | ● | ● | ● |




MD VHM HM | λ 30° | Sharp Corner | 5xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.50 | 2.50 | 3.00 | 39 | 3371-5-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 3.00 | 3.00 | 39 | 3371-5-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 3.50 | 3.00 | 39 | 3371-5-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 4.00 | 3.00 | 39 | 3371-5-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 4.50 | 3.00 | 39 | 3371-5-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 5.00 | 3.00 | 39 | 3371-5-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 5.50 | 3.00 | 39 | 3371-5-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 6.00 | 3.00 | 39 | 3371-5-1.20 | ● | ● | ● | ● | ● |
| 1.50 | 7.50 | 3.00 | 39 | 3371-5-1.50 | ● | ● | ● | ● | ● |
| 2.00 | 10.00 | 3.00 | 39 | 3371-5-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 12.50 | 3.00 | 39 | 3371-5-2.50 | ● | ● | ● | ● | ● |



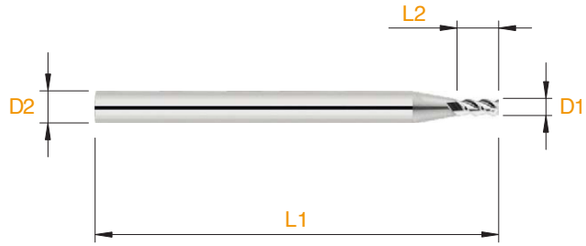

MD VHM HM | λ 30° | Sharp Corner | 8xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | D2 h4 Ø3.0 h5 Ø4.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.50 | 4.00 | 3.00 | 39 | 3371-8-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 5.00 | 3.00 | 39 | 3371-8-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 5.60 | 3.00 | 39 | 3371-8-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 6.00 | 3.00 | 39 | 3371-8-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 7.20 | 3.00 | 39 | 3371-8-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 8.00 | 3.00 | 39 | 3371-8-1.00 | ● | ● | ● | ● | ● |
| 1.20 | 9.00 | 3.00 | 39 | 3371-8-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 11.00 | 3.00 | 39 | 3371-8-1.30 | ● | ● | ● | ● | ● |
| 1.50 | 12.00 | 4.00 | 50 | 3371-8-1.50 | ● | ● | ● | ● | ● |
| 2.00 | 16.00 | 4.00 | 50 | 3371-8-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 20.00 | 4.00 | 50 | 3371-8-2.50 | ● | ● | ● | ● | ● |



Zurück zum Kapitelanfang

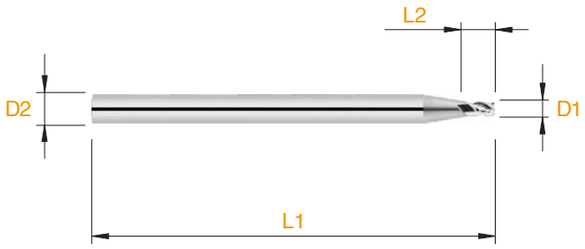





MD VHM HM | λ 45° | Sharp Corner | 2.5xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.80 | 3.00 | 39 | 3375-2.5-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 1.00 | 3.00 | 39 | 3375-2.5-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.30 | 3.00 | 39 | 3375-2.5-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.50 | 3.00 | 39 | 3375-2.5-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.70 | 3.00 | 39 | 3375-2.5-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 2.00 | 3.00 | 39 | 3375-2.5-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 2.30 | 3.00 | 39 | 3375-2.5-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 2.50 | 3.00 | 39 | 3375-2.5-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.80 | 3.00 | 39 | 3375-2.5-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 3.00 | 3.00 | 39 | 3375-2.5-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 3.30 | 3.00 | 39 | 3375-2.5-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 3.50 | 3.00 | 39 | 3375-2.5-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.80 | 3.00 | 39 | 3375-2.5-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 4.00 | 3.00 | 39 | 3375-2.5-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 4.30 | 3.00 | 39 | 3375-2.5-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 4.50 | 3.00 | 39 | 3375-2.5-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 4.80 | 3.00 | 39 | 3375-2.5-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 5.00 | 3.00 | 39 | 3375-2.5-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 5.30 | 3.00 | 39 | 3375-2.5-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 5.50 | 3.00 | 39 | 3375-2.5-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 5.80 | 3.00 | 39 | 3375-2.5-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 6.00 | 3.00 | 39 | 3375-2.5-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 6.30 | 3.00 | 39 | 3375-2.5-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 6.50 | 3.00 | 39 | 3375-2.5-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 6.80 | 3.00 | 39 | 3375-2.5-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 7.00 | 3.00 | 39 | 3375-2.5-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 7.30 | 3.00 | 39 | 3375-2.5-2.90 | ● | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request




MD
VHM
HM

λ 36° 38° 40°

Sharp Corner

1.5xD1

Z=3

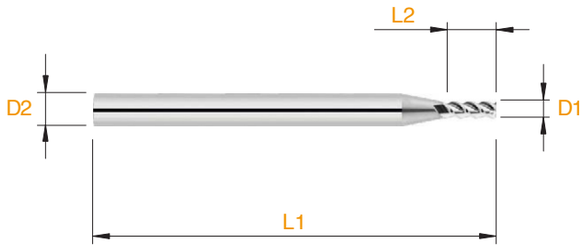
DHD — Dentureàpas irrégulier,hélicedifférente
UngleicheTeilung, unterschiedlicheSpirale
Uneventooth pitch, different helix

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.45 | 3.00 | 39 | DHD3371-1.5-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.60 | 3.00 | 39 | DHD3371-1.5-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.75 | 3.00 | 39 | DHD3371-1.5-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.90 | 3.00 | 39 | DHD3371-1.5-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.05 | 3.00 | 39 | DHD3371-1.5-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.20 | 3.00 | 39 | DHD3371-1.5-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.35 | 3.00 | 39 | DHD3371-1.5-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 1.50 | 3.00 | 39 | DHD3371-1.5-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 1.65 | 3.00 | 39 | DHD3371-1.5-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 1.80 | 3.00 | 39 | DHD3371-1.5-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 1.95 | 3.00 | 39 | DHD3371-1.5-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.10 | 3.00 | 39 | DHD3371-1.5-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 2.25 | 3.00 | 39 | DHD3371-1.5-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 2.40 | 3.00 | 39 | DHD3371-1.5-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 2.55 | 3.00 | 39 | DHD3371-1.5-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 2.70 | 3.00 | 39 | DHD3371-1.5-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 2.85 | 3.00 | 39 | DHD3371-1.5-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 3.00 | 3.00 | 39 | DHD3371-1.5-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 3.75 | 3.00 | 39 | DHD3371-1.5-2.50 | ● | ● | ● | ● | ● |



Zurück zum Kapitelanfang






MD
VHM
HM

λ 36° 38° 40°

Sharp Corner

3xD1

Z=3

DHD — Dentureàpas irrégulier,hélicedifférente
UngleicheTeilung, unterschiedlicheSpirale
Uneventooth pitch, different helix

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.90 | 3.00 | 39 | DHD3371-3-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 1.20 | 3.00 | 39 | DHD3371-3-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.50 | 3.00 | 39 | DHD3371-3-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.80 | 3.00 | 39 | DHD3371-3-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 2.10 | 3.00 | 39 | DHD3371-3-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 2.40 | 3.00 | 39 | DHD3371-3-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 2.70 | 3.00 | 39 | DHD3371-3-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 3.00 | 3.00 | 39 | DHD3371-3-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 3.30 | 3.00 | 39 | DHD3371-3-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 3.60 | 3.00 | 39 | DHD3371-3-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 3.90 | 3.00 | 39 | DHD3371-3-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 4.20 | 3.00 | 39 | DHD3371-3-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 4.50 | 3.00 | 39 | DHD3371-3-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 4.80 | 3.00 | 39 | DHD3371-3-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 5.10 | 3.00 | 39 | DHD3371-3-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 5.40 | 3.00 | 39 | DHD3371-3-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 5.70 | 3.00 | 39 | DHD3371-3-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 6.00 | 3.00 | 39 | DHD3371-3-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 7.50 | 3.00 | 39 | DHD3371-3-2.50 | ● | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills






MD VHM HM | λ 30° | Sharp Corner | L3 3xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.60 | 0.90 | 0.27 | 3.00 | 39 | 3370S-3X-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.80 | 1.20 | 0.37 | 3.00 | 39 | 3370S-3X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 1.50 | 0.45 | 3.00 | 39 | 3370S-3X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 1.80 | 0.55 | 3.00 | 39 | 3370S-3X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.40 | 2.10 | 0.65 | 3.00 | 39 | 3370S-3X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 2.40 | 0.75 | 3.00 | 39 | 3370S-3X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.80 | 2.70 | 0.85 | 3.00 | 39 | 3370S-3X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 3.00 | 0.95 | 3.00 | 39 | 3370S-3X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.20 | 3.30 | 1.05 | 3.00 | 39 | 3370S-3X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 3.60 | 1.15 | 3.00 | 39 | 3370S-3X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 2.60 | 3.90 | 1.25 | 3.00 | 39 | 3370S-3X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.80 | 4.20 | 1.35 | 3.00 | 39 | 3370S-3X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 4.50 | 1.45 | 3.00 | 39 | 3370S-3X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 3.20 | 4.80 | 1.55 | 3.00 | 39 | 3370S-3X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 3.40 | 5.10 | 1.65 | 3.00 | 39 | 3370S-3X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 5.40 | 1.75 | 3.00 | 39 | 3370S-3X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 3.80 | 5.70 | 1.85 | 3.00 | 39 | 3370S-3X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 6.00 | 1.95 | 6.00 | 50 | 3370S-3X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 4.20 | 6.30 | 2.05 | 6.00 | 50 | 3370S-3X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 4.40 | 6.60 | 2.15 | 6.00 | 50 | 3370S-3X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 4.60 | 6.90 | 2.25 | 6.00 | 50 | 3370S-3X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 4.80 | 7.20 | 2.35 | 6.00 | 50 | 3370S-3X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 5.00 | 7.50 | 2.45 | 6.00 | 50 | 3370S-3X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 6.00 | 9.00 | 2.95 | 6.00 | 50 | 3370S-3X-3.00 | ● | ● | ● | ● | ● |




MD VHM HM | λ 30° | Sharp Corner | L3 6xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.60 | 1.80 | 0.27 | 3.00 | 39 | 3370S-6X-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.80 | 2.40 | 0.37 | 3.00 | 39 | 3370S-6X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 3.00 | 0.45 | 3.00 | 39 | 3370S-6X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 3.60 | 0.55 | 3.00 | 39 | 3370S-6X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.40 | 4.20 | 0.65 | 3.00 | 39 | 3370S-6X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 4.80 | 0.75 | 3.00 | 39 | 3370S-6X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.80 | 5.40 | 0.85 | 3.00 | 39 | 3370S-6X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 6.00 | 0.95 | 3.00 | 39 | 3370S-6X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.20 | 6.60 | 1.05 | 3.00 | 39 | 3370S-6X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 7.20 | 1.15 | 3.00 | 39 | 3370S-6X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 2.60 | 7.80 | 1.25 | 3.00 | 39 | 3370S-6X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.80 | 8.40 | 1.35 | 3.00 | 39 | 3370S-6X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 9.00 | 1.45 | 3.00 | 39 | 3370S-6X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 3.20 | 9.60 | 1.55 | 3.00 | 39 | 3370S-6X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 3.40 | 10.20 | 1.65 | 3.00 | 39 | 3370S-6X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 10.80 | 1.75 | 3.00 | 39 | 3370S-6X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 3.80 | 11.40 | 1.85 | 3.00 | 39 | 3370S-6X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 12.00 | 1.95 | 6.00 | 50 | 3370S-6X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 4.20 | 12.60 | 2.05 | 6.00 | 50 | 3370S-6X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 4.40 | 13.20 | 2.15 | 6.00 | 50 | 3370S-6X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 4.60 | 13.80 | 2.25 | 6.00 | 50 | 3370S-6X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 4.80 | 14.40 | 2.35 | 6.00 | 50 | 3370S-6X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 5.00 | 15.00 | 2.45 | 6.00 | 50 | 3370S-6X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 6.00 | 18.00 | 2.95 | 6.00 | 50 | 3370S-6X-3.00 | ● | ● | ● | ● | ● |




MD
VHM
HM

λ 30°

Sharp Corner

L3
9xD1

Z=3

| D1 +0.005/ -0.010 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.40 | 0.80 | 3.60 | 0.37 | 3.00 | 39 | 3370S-9X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 4.50 | 0.45 | 3.00 | 39 | 3370S-9X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 5.40 | 0.55 | 3.00 | 39 | 3370S-9X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.40 | 6.30 | 0.65 | 3.00 | 39 | 3370S-9X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 7.20 | 0.75 | 3.00 | 39 | 3370S-9X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.80 | 8.10 | 0.85 | 3.00 | 39 | 3370S-9X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 9.00 | 0.95 | 3.00 | 39 | 3370S-9X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.20 | 9.90 | 1.05 | 3.00 | 39 | 3370S-9X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 10.80 | 1.15 | 3.00 | 39 | 3370S-9X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 2.60 | 11.70 | 1.25 | 3.00 | 39 | 3370S-9X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.80 | 12.60 | 1.35 | 3.00 | 39 | 3370S-9X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 13.50 | 1.45 | 3.00 | 39 | 3370S-9X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 3.20 | 14.40 | 1.55 | 3.00 | 39 | 3370S-9X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 3.40 | 15.30 | 1.65 | 3.00 | 39 | 3370S-9X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 16.20 | 1.75 | 3.00 | 39 | 3370S-9X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 3.80 | 17.10 | 1.85 | 3.00 | 39 | 3370S-9X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 18.00 | 1.95 | 6.00 | 50 | 3370S-9X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 4.20 | 18.90 | 2.05 | 6.00 | 50 | 3370S-9X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 4.40 | 19.80 | 2.15 | 6.00 | 50 | 3370S-9X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 4.60 | 20.70 | 2.25 | 6.00 | 50 | 3370S-9X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 4.80 | 21.60 | 2.35 | 6.00 | 50 | 3370S-9X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 5.00 | 22.50 | 2.45 | 6.00 | 50 | 3370S-9X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 6.00 | 27.00 | 2.95 | 6.00 | 50 | 3370S-9X-3.00 | ● | ● | ● | ● | ● |




MD
VHM
HM

λ 30°

Radius Corner

L3
3xD1

Z=3

| D1 +0.005/ -0.010 | R +/- 0.02 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.05 | 0.60 | 0.90 | 0.27 | 3.00 | 39 | 3379T-3X-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.05 | 0.80 | 1.20 | 0.37 | 3.00 | 39 | 3379T-3X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.05 | 1.00 | 1.50 | 0.45 | 3.00 | 39 | 3379T-3X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.05 | 1.20 | 1.80 | 0.55 | 3.00 | 39 | 3379T-3X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.05 | 1.40 | 2.10 | 0.65 | 3.00 | 39 | 3379T-3X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.05 | 1.60 | 2.40 | 0.75 | 3.00 | 39 | 3379T-3X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.05 | 1.80 | 2.70 | 0.85 | 3.00 | 39 | 3379T-3X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.10 | 2.00 | 3.00 | 0.95 | 3.00 | 39 | 3379T-3X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.10 | 2.20 | 3.30 | 1.05 | 3.00 | 39 | 3379T-3X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 0.10 | 2.40 | 3.60 | 1.15 | 3.00 | 39 | 3379T-3X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.10 | 2.60 | 3.90 | 1.25 | 3.00 | 39 | 3379T-3X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.10 | 2.80 | 4.20 | 1.35 | 3.00 | 39 | 3379T-3X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.20 | 3.00 | 4.50 | 1.45 | 3.00 | 39 | 3379T-3X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 0.20 | 3.20 | 4.80 | 1.55 | 3.00 | 39 | 3379T-3X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 0.20 | 3.40 | 5.10 | 1.65 | 3.00 | 39 | 3379T-3X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 0.20 | 3.60 | 5.40 | 1.75 | 3.00 | 39 | 3379T-3X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 0.20 | 3.80 | 5.70 | 1.85 | 3.00 | 39 | 3379T-3X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 0.20 | 4.00 | 6.00 | 1.95 | 6.00 | 50 | 3379T-3X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 0.20 | 4.20 | 6.30 | 2.05 | 6.00 | 50 | 3379T-3X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 0.20 | 4.40 | 6.60 | 2.15 | 6.00 | 50 | 3379T-3X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 0.20 | 4.60 | 6.90 | 2.25 | 6.00 | 50 | 3379T-3X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 0.20 | 4.80 | 7.20 | 2.35 | 6.00 | 50 | 3379T-3X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 0.20 | 5.00 | 7.50 | 2.45 | 6.00 | 50 | 3379T-3X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 0.20 | 6.00 | 9.00 | 2.95 | 6.00 | 50 | 3379T-3X-3.00 | ● | ● | ● | ● | ● |




MD VHM HM | λ 30° | Radius Corner | L3 6xD1 | Z=3

| D1 +0.005/ -0.010 | R +/- 0.02 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.05 | 0.60 | 1.80 | 0.27 | 3.00 | 39 | 3379T-6X-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.05 | 0.80 | 2.40 | 0.37 | 3.00 | 39 | 3379T-6X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.05 | 1.00 | 3.00 | 0.45 | 3.00 | 39 | 3379T-6X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.05 | 1.20 | 3.60 | 0.55 | 3.00 | 39 | 3379T-6X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.05 | 1.40 | 4.20 | 0.65 | 3.00 | 39 | 3379T-6X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.05 | 1.60 | 4.80 | 0.75 | 3.00 | 39 | 3379T-6X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.05 | 1.80 | 5.40 | 0.85 | 3.00 | 39 | 3379T-6X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.10 | 2.00 | 6.00 | 0.95 | 3.00 | 39 | 3379T-6X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.10 | 2.20 | 6.60 | 1.05 | 3.00 | 39 | 3379T-6X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 0.10 | 2.40 | 7.20 | 1.15 | 3.00 | 39 | 3379T-6X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.10 | 2.60 | 7.80 | 1.25 | 3.00 | 39 | 3379T-6X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.10 | 2.80 | 8.40 | 1.35 | 3.00 | 39 | 3379T-6X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.20 | 3.00 | 9.00 | 1.45 | 3.00 | 39 | 3379T-6X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 0.20 | 3.20 | 9.60 | 1.55 | 3.00 | 39 | 3379T-6X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 0.20 | 3.40 | 10.20 | 1.65 | 3.00 | 39 | 3379T-6X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 0.20 | 3.60 | 10.80 | 1.75 | 3.00 | 39 | 3379T-6X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 0.20 | 3.80 | 11.40 | 1.85 | 3.00 | 39 | 3379T-6X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 0.20 | 4.00 | 12.00 | 1.95 | 6.00 | 50 | 3379T-6X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 0.20 | 4.20 | 12.60 | 2.05 | 6.00 | 50 | 3379T-6X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 0.20 | 4.40 | 13.20 | 2.15 | 6.00 | 50 | 3379T-6X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 0.20 | 4.60 | 13.80 | 2.25 | 6.00 | 50 | 3379T-6X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 0.20 | 4.80 | 14.40 | 2.35 | 6.00 | 50 | 3379T-6X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 0.20 | 5.00 | 15.00 | 2.45 | 6.00 | 50 | 3379T-6X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 0.20 | 6.00 | 18.00 | 2.95 | 6.00 | 50 | 3379T-6X-3.00 | ● | ● | ● | ● | ● |



Zurück zum Kapitelanfang

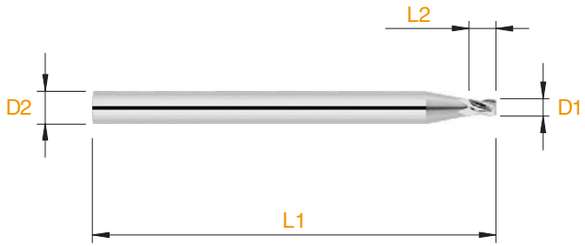





MD VHM HM | λ 30° | Radius Corner | L3 9xD1 | Z=3

| D1 +0.005/ -0.010 | R +/- 0.02 | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.40 | 0.05 | 0.80 | 3.60 | 0.37 | 3.00 | 39 | 3379T-9X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.05 | 1.00 | 4.50 | 0.45 | 3.00 | 39 | 3379T-9X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.05 | 1.20 | 5.40 | 0.55 | 3.00 | 39 | 3379T-9X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.05 | 1.40 | 6.30 | 0.65 | 3.00 | 39 | 3379T-9X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.05 | 1.60 | 7.20 | 0.75 | 3.00 | 39 | 3379T-9X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.05 | 1.80 | 8.10 | 0.85 | 3.00 | 39 | 3379T-9X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.10 | 2.00 | 9.00 | 0.95 | 3.00 | 39 | 3379T-9X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.10 | 2.20 | 9.90 | 1.05 | 3.00 | 39 | 3379T-9X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 0.10 | 2.40 | 10.80 | 1.15 | 3.00 | 39 | 3379T-9X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.10 | 2.60 | 11.70 | 1.25 | 3.00 | 39 | 3379T-9X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.10 | 2.80 | 12.60 | 1.35 | 3.00 | 39 | 3379T-9X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.20 | 3.00 | 13.50 | 1.45 | 3.00 | 39 | 3379T-9X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 0.20 | 3.20 | 14.40 | 1.55 | 3.00 | 39 | 3379T-9X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 0.20 | 3.40 | 15.30 | 1.65 | 3.00 | 39 | 3379T-9X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 0.20 | 3.60 | 16.20 | 1.75 | 3.00 | 39 | 3379T-9X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 0.20 | 3.80 | 17.10 | 1.85 | 3.00 | 39 | 3379T-9X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 0.20 | 4.00 | 18.00 | 1.95 | 6.00 | 50 | 3379T-9X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 0.20 | 4.20 | 18.90 | 2.05 | 6.00 | 50 | 3379T-9X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 0.20 | 4.40 | 19.80 | 2.15 | 6.00 | 50 | 3379T-9X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 0.20 | 4.60 | 20.70 | 2.25 | 6.00 | 50 | 3379T-9X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 0.20 | 4.80 | 21.60 | 2.35 | 6.00 | 50 | 3379T-9X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 0.20 | 5.00 | 22.50 | 2.45 | 6.00 | 50 | 3379T-9X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 0.20 | 6.00 | 27.00 | 2.95 | 6.00 | 50 | 3379T-9X-3.00 | ● | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request



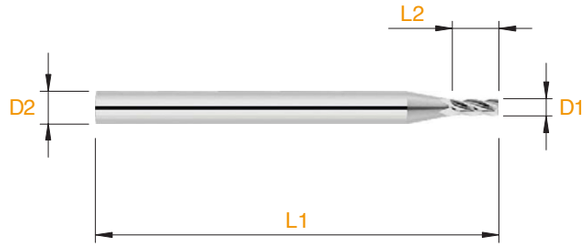

MD VHM HM | λ 30° | Sharp Corner | 1.5xD1 | Z=4

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.45 | 3.00 | 39 | 3471-1.5-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.60 | 3.00 | 39 | 3471-1.5-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.75 | 3.00 | 39 | 3471-1.5-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.90 | 3.00 | 39 | 3471-1.5-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.05 | 3.00 | 39 | 3471-1.5-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.20 | 3.00 | 39 | 3471-1.5-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.35 | 3.00 | 39 | 3471-1.5-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 1.50 | 3.00 | 39 | 3471-1.5-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 1.65 | 3.00 | 39 | 3471-1.5-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 1.80 | 3.00 | 39 | 3471-1.5-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 1.95 | 3.00 | 39 | 3471-1.5-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.10 | 3.00 | 39 | 3471-1.5-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 2.25 | 3.00 | 39 | 3471-1.5-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 2.40 | 3.00 | 39 | 3471-1.5-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 2.55 | 3.00 | 39 | 3471-1.5-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 2.70 | 3.00 | 39 | 3471-1.5-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 2.85 | 3.00 | 39 | 3471-1.5-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 3.00 | 3.00 | 39 | 3471-1.5-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 3.15 | 3.00 | 39 | 3471-1.5-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 3.30 | 3.00 | 39 | 3471-1.5-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 3.45 | 3.00 | 39 | 3471-1.5-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 3.60 | 3.00 | 39 | 3471-1.5-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 3.75 | 3.00 | 39 | 3471-1.5-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 3.90 | 3.00 | 39 | 3471-1.5-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 4.05 | 3.00 | 39 | 3471-1.5-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 4.20 | 3.00 | 39 | 3471-1.5-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 4.35 | 3.00 | 39 | 3471-1.5-2.90 | ● | ● | ● | ● | ● |



Zurück zum Kapitelanfang





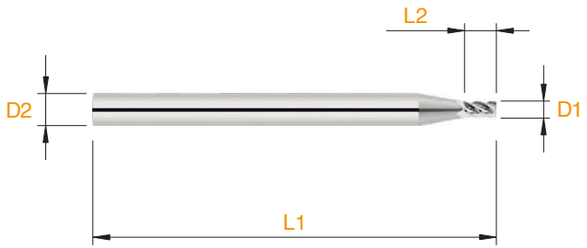

MD VHM HM | λ 30° | Sharp Corner | 3xD1 | Z=4

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.90 | 3.00 | 39 | 3471-3-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 1.20 | 3.00 | 39 | 3471-3-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.50 | 3.00 | 39 | 3471-3-0.50 | ● | ● | ● | ● | ● |
| 0.55 | 1.70 | 3.00 | 39 | 3471-3-0.55 | ● | ● | ● | ● | ● |
| 0.60 | 1.80 | 3.00 | 39 | 3471-3-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 2.10 | 3.00 | 39 | 3471-3-0.70 | ● | ● | ● | ● | ● |
| 0.75 | 2.30 | 3.00 | 39 | 3471-3-0.75 | ● | ● | ● | ● | ● |
| 0.80 | 2.40 | 3.00 | 39 | 3471-3-0.80 | ● | ● | ● | ● | ● |
| 0.85 | 2.60 | 3.00 | 39 | 3471-3-0.85 | ● | ● | ● | ● | ● |
| 0.90 | 2.70 | 3.00 | 39 | 3471-3-0.90 | ● | ● | ● | ● | ● |
| 0.95 | 2.90 | 3.00 | 39 | 3471-3-0.95 | ● | ● | ● | ● | ● |
| 1.00 | 3.00 | 3.00 | 39 | 3471-3-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 3.30 | 3.00 | 39 | 3471-3-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 3.60 | 3.00 | 39 | 3471-3-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 3.90 | 3.00 | 39 | 3471-3-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 4.20 | 3.00 | 39 | 3471-3-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 4.50 | 3.00 | 39 | 3471-3-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 4.80 | 3.00 | 39 | 3471-3-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 5.10 | 3.00 | 39 | 3471-3-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 5.40 | 3.00 | 39 | 3471-3-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 5.70 | 3.00 | 39 | 3471-3-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 6.00 | 3.00 | 39 | 3471-3-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 6.30 | 3.00 | 39 | 3471-3-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 6.60 | 3.00 | 39 | 3471-3-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 6.90 | 3.00 | 39 | 3471-3-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 7.20 | 3.00 | 39 | 3471-3-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 7.50 | 3.00 | 39 | 3471-3-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 7.80 | 3.00 | 39 | 3471-3-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 8.10 | 3.00 | 39 | 3471-3-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 8.40 | 3.00 | 39 | 3471-3-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 8.70 | 3.00 | 39 | 3471-3-2.90 | ● | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request

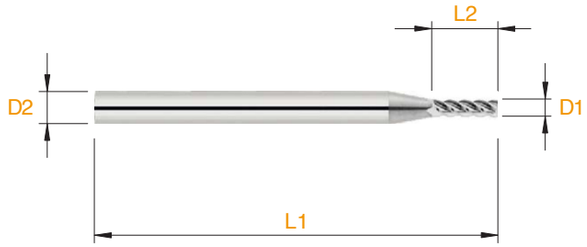
Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills






MD VHM HM | λ 40° | Sharp Corner | 2xD1 | Z=4

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.60 | 3.00 | 39 | 3472-2-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.80 | 3.00 | 39 | 3472-2-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 3.00 | 39 | 3472-2-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 3.00 | 39 | 3472-2-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 1.40 | 3.00 | 39 | 3472-2-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 3.00 | 39 | 3472-2-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 1.80 | 3.00 | 39 | 3472-2-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 3.00 | 39 | 3472-2-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 2.20 | 3.00 | 39 | 3472-2-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 3.00 | 39 | 3472-2-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 2.60 | 3.00 | 39 | 3472-2-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 2.80 | 3.00 | 39 | 3472-2-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 3.00 | 39 | 3472-2-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 3.20 | 3.00 | 39 | 3472-2-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 3.40 | 3.00 | 39 | 3472-2-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 3.00 | 39 | 3472-2-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 3.80 | 3.00 | 39 | 3472-2-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 3.00 | 39 | 3472-2-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 4.20 | 3.00 | 39 | 3472-2-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 4.40 | 3.00 | 39 | 3472-2-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 4.60 | 3.00 | 39 | 3472-2-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 4.80 | 3.00 | 39 | 3472-2-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 5.00 | 3.00 | 39 | 3472-2-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 5.20 | 3.00 | 39 | 3472-2-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 5.40 | 3.00 | 39 | 3472-2-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 5.60 | 3.00 | 39 | 3472-2-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 5.80 | 3.00 | 39 | 3472-2-2.90 | ● | ● | ● | ● | ● |

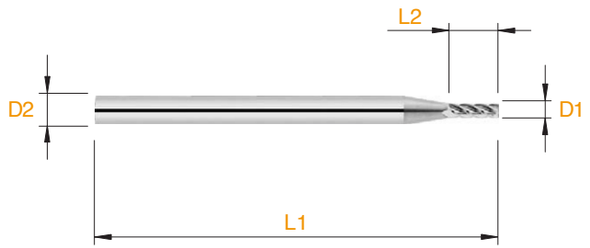



MD VHM HM | λ 40° | Sharp Corner | 4xD1 | Z=4

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.40 | 1.60 | 3.00 | 39 | 3472-4-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 2.00 | 3.00 | 39 | 3472-4-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 2.40 | 3.00 | 39 | 3472-4-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 2.80 | 3.00 | 39 | 3472-4-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 3.20 | 3.00 | 39 | 3472-4-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 3.60 | 3.00 | 39 | 3472-4-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 4.00 | 3.00 | 39 | 3472-4-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 4.40 | 3.00 | 39 | 3472-4-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 4.80 | 3.00 | 39 | 3472-4-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 5.20 | 3.00 | 39 | 3472-4-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 5.60 | 3.00 | 39 | 3472-4-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 6.00 | 3.00 | 39 | 3472-4-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 6.40 | 3.00 | 39 | 3472-4-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 6.80 | 3.00 | 39 | 3472-4-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 7.20 | 3.00 | 39 | 3472-4-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 7.60 | 3.00 | 39 | 3472-4-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 8.00 | 3.00 | 39 | 3472-4-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 8.40 | 3.00 | 39 | 3472-4-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 8.80 | 3.00 | 39 | 3472-4-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 9.20 | 3.00 | 39 | 3472-4-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 9.60 | 3.00 | 39 | 3472-4-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 10.00 | 3.00 | 39 | 3472-4-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 10.40 | 3.00 | 39 | 3472-4-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 10.80 | 3.00 | 39 | 3472-4-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 11.20 | 3.00 | 39 | 3472-4-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 11.60 | 3.00 | 39 | 3472-4-2.90 | ● | ● | ● | ● | ● |

# DHP3471-3

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills




MD VHM HM | λ 35° ↓ 38° | Sharp Corner | 3xD1 | Z=4

DHP — Dentureàpas irrégulier,héliceprogressive
UngleicheTeilung, progressiveSpirale
Uneventooth pitch, progressivehelix

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.50 | 1.50 | 3.00 | 39 | DHP3471-3-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.80 | 3.00 | 39 | DHP3471-3-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 2.10 | 3.00 | 39 | DHP3471-3-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 2.40 | 3.00 | 39 | DHP3471-3-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 2.70 | 3.00 | 39 | DHP3471-3-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 3.00 | 3.00 | 39 | DHP3471-3-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 3.30 | 3.00 | 39 | DHP3471-3-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 3.60 | 3.00 | 39 | DHP3471-3-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 3.90 | 3.00 | 39 | DHP3471-3-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 4.20 | 3.00 | 39 | DHP3471-3-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 4.50 | 3.00 | 39 | DHP3471-3-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 4.80 | 3.00 | 39 | DHP3471-3-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 5.10 | 3.00 | 39 | DHP3471-3-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 5.40 | 3.00 | 39 | DHP3471-3-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 5.70 | 3.00 | 39 | DHP3471-3-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 6.00 | 3.00 | 39 | DHP3471-3-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 7.50 | 3.00 | 39 | DHP3471-3-2.50 | ● | ● | ● | ● | ● |



Zurück zum Kapitelanfang



# 3278-0.75

Micro-fraises hémisphériques
Vollradius Mikrofräser
Ball nose micro end mills




MD VHM HM | λ 30° | 0.75xD1 | Z=2

| D1 +0.005/ -0.010 | R | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.20 | 0.10 | 0.15 | 3.00 | 39 | 3278-0.75-0.20 | ● | | | | |
| 0.30 | 0.15 | 0.20 | 3.00 | 39 | 3278-0.75-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.20 | 0.30 | 3.00 | 39 | 3278-0.75-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.25 | 0.35 | 3.00 | 39 | 3278-0.75-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.30 | 0.45 | 3.00 | 39 | 3278-0.75-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.35 | 0.55 | 3.00 | 39 | 3278-0.75-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.40 | 0.60 | 3.00 | 39 | 3278-0.75-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.45 | 0.70 | 3.00 | 39 | 3278-0.75-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.50 | 0.75 | 3.00 | 39 | 3278-0.75-1.00 | ● | ● | ● | ● | ● |
| 1.50 | 0.75 | 1.15 | 3.00 | 39 | 3278-0.75-1.50 | ● | ● | ● | ● | ● |
| 2.00 | 1.00 | 1.50 | 3.00 | 39 | 3278-0.75-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 1.25 | 1.90 | 3.00 | 39 | 3278-0.75-2.50 | ● | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request

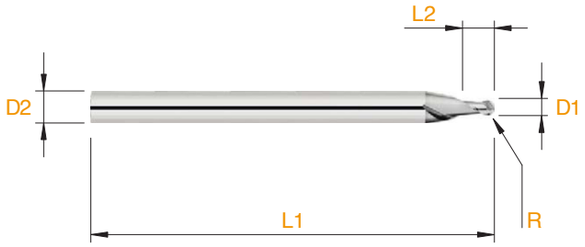



MD VHM HM | λ 30° | 1xD1 | Z=2

| D1 +0.005/ -0.010 | R | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.20 | 0.10 | 0.20 | 3.00 | 39 | 3278-1-0.20 | ● | | | | |
| 0.30 | 0.15 | 0.30 | 3.00 | 39 | 3278-1-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.20 | 0.40 | 3.00 | 39 | 3278-1-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.25 | 0.50 | 3.00 | 39 | 3278-1-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.30 | 0.60 | 3.00 | 39 | 3278-1-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.35 | 0.70 | 3.00 | 39 | 3278-1-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.40 | 0.80 | 3.00 | 39 | 3278-1-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.45 | 0.90 | 3.00 | 39 | 3278-1-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.50 | 1.00 | 3.00 | 39 | 3278-1-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.55 | 1.10 | 3.00 | 39 | 3278-1-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 0.60 | 1.20 | 3.00 | 39 | 3278-1-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.35 | 1.30 | 3.00 | 39 | 3278-1-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.70 | 1.40 | 3.00 | 39 | 3278-1-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.75 | 1.50 | 3.00 | 39 | 3278-1-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 0.80 | 1.60 | 3.00 | 39 | 3278-1-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 0.85 | 1.70 | 3.00 | 39 | 3278-1-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 0.90 | 1.80 | 3.00 | 39 | 3278-1-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 0.95 | 1.90 | 3.00 | 39 | 3278-1-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 1.00 | 2.00 | 3.00 | 39 | 3278-1-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 1.05 | 2.10 | 3.00 | 39 | 3278-1-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 1.10 | 2.20 | 3.00 | 39 | 3278-1-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 1.15 | 2.30 | 3.00 | 39 | 3278-1-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 1.20 | 2.40 | 3.00 | 39 | 3278-1-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 1.25 | 2.50 | 3.00 | 39 | 3278-1-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 1.30 | 2.60 | 3.00 | 39 | 3278-1-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 1.35 | 2.70 | 3.00 | 39 | 3278-1-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 1.40 | 2.80 | 3.00 | 39 | 3278-1-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 1.45 | 2.90 | 3.00 | 39 | 3278-1-2.90 | ● | ● | ● | ● | ● |








MD VHM HM | λ 30° | 1.5xD1 | Z=2

| D1 +0.005/ -0.010 | R | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.20 | 0.10 | 0.30 | 3.00 | 39 | 3278-1.5-0.20 | ● | | | | |
| 0.25 | 0.125 | 0.35 | 3.00 | 39 | 3278-1.5-0.25 | ● | | | | |
| 0.30 | 0.15 | 0.45 | 3.00 | 39 | 3278-1.5-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.20 | 0.60 | 3.00 | 39 | 3278-1.5-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.25 | 0.75 | 3.00 | 39 | 3278-1.5-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.30 | 0.90 | 3.00 | 39 | 3278-1.5-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.35 | 1.05 | 3.00 | 39 | 3278-1.5-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.40 | 1.20 | 3.00 | 39 | 3278-1.5-0.80 | ● | ● | ● | ● | ● |
| 0.85 | 0.40 | 1.30 | 3.00 | 39 | 3278-1.5-0.85 | ● | ● | ● | ● | ● |
| 0.90 | 0.45 | 1.35 | 3.00 | 39 | 3278-1.5-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.50 | 1.50 | 3.00 | 39 | 3278-1.5-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.55 | 1.65 | 3.00 | 39 | 3278-1.5-1.10 | ● | ● | ● | ● | ● |
| 1.15 | 0.55 | 1.75 | 3.00 | 39 | 3278-1.5-1.15 | ● | ● | ● | ● | ● |
| 1.20 | 0.60 | 1.80 | 3.00 | 39 | 3278-1.5-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.65 | 1.95 | 3.00 | 39 | 3278-1.5-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.70 | 2.10 | 3.00 | 39 | 3278-1.5-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.75 | 2.25 | 3.00 | 39 | 3278-1.5-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 0.80 | 2.40 | 3.00 | 39 | 3278-1.5-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 0.85 | 2.60 | 3.00 | 39 | 3278-1.5-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 0.90 | 2.70 | 3.00 | 39 | 3278-1.5-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 0.95 | 2.90 | 3.00 | 39 | 3278-1.5-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 1.00 | 3.00 | 3.00 | 39 | 3278-1.5-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 1.05 | 3.20 | 3.00 | 39 | 3278-1.5-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 1.10 | 3.30 | 3.00 | 39 | 3278-1.5-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 1.15 | 3.50 | 3.00 | 39 | 3278-1.5-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 1.20 | 3.60 | 3.00 | 39 | 3278-1.5-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 1.25 | 3.75 | 3.00 | 39 | 3278-1.5-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 1.30 | 3.90 | 3.00 | 39 | 3278-1.5-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 1.35 | 4.00 | 3.00 | 39 | 3278-1.5-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 1.40 | 4.20 | 3.00 | 39 | 3278-1.5-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 1.45 | 4.40 | 3.00 | 39 | 3278-1.5-2.90 | ● | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request




MD VHM HM | λ 30° | 3xD1 | Z=2

| D1 +0.005/ -0.010 | R | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.20 | 0.10 | 0.60 | 3.00 | 39 | 3278-3-0.20 | ● | | | | |
| 0.30 | 0.15 | 1.00 | 3.00 | 39 | 3278-3-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.20 | 1.00 | 3.00 | 39 | 3278-3-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.25 | 1.50 | 3.00 | 39 | 3278-3-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.30 | 1.50 | 3.00 | 39 | 3278-3-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.35 | 2.00 | 3.00 | 39 | 3278-3-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.40 | 2.00 | 3.00 | 39 | 3278-3-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.45 | 2.50 | 3.00 | 39 | 3278-3-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.50 | 3.00 | 3.00 | 39 | 3278-3-1.00 | ● | ● | ● | ● | ● |
| 1.20 | 0.60 | 4.00 | 3.00 | 39 | 3278-3-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.65 | 4.00 | 3.00 | 39 | 3278-3-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.70 | 4.00 | 3.00 | 39 | 3278-3-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.75 | 4.50 | 3.00 | 39 | 3278-3-1.50 | ● | ● | ● | ● | ● |
| 1.55 | 0.775 | 5.00 | 3.00 | 39 | 3278-3-1.55 | ● | ● | ● | ● | ● |
| 1.60 | 0.80 | 5.00 | 3.00 | 39 | 3278-3-1.60 | ● | ● | ● | ● | ● |
| 1.80 | 0.90 | 5.50 | 3.00 | 39 | 3278-3-1.80 | ● | ● | ● | ● | ● |
| 2.00 | 1.00 | 6.00 | 3.00 | 39 | 3278-3-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 1.05 | 6.50 | 3.00 | 39 | 3278-3-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 1.10 | 7.00 | 3.00 | 39 | 3278-3-2.20 | ● | ● | ● | ● | ● |
| 2.50 | 1.25 | 7.50 | 3.00 | 39 | 3278-3-2.50 | ● | ● | ● | ● | ● |
| 2.60 | 1.30 | 7.80 | 3.00 | 39 | 3278-3-2.60 | ● | ● | ● | ● | ● |
| 2.70 | 1.35 | 8.10 | 3.00 | 39 | 3278-3-2.70 | ● | ● | ● | ● | ● |
| 2.80 | 1.40 | 8.40 | 3.00 | 39 | 3278-3-2.80 | ● | ● | ● | ● | ● |
| 2.90 | 1.45 | 8.70 | 3.00 | 39 | 3278-3-2.90 | ● | ● | ● | ● | ● |






MD VHM HM | λ 30° | L3 3xD1 | Z=2

| D1 +0.005/ -0.010 | R | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.20 | 0.10 | 0.30 | 0.60 | 0.19 | 3.00 | 39 | 3278H-3X-0.20 | ● | | | | |
| 0.30 | 0.15 | 0.45 | 0.90 | 0.27 | 3.00 | 39 | 3278H-3X-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.20 | 0.60 | 1.20 | 0.37 | 3.00 | 39 | 3278H-3X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.25 | 0.75 | 1.50 | 0.45 | 3.00 | 39 | 3278H-3X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.30 | 0.90 | 1.80 | 0.55 | 3.00 | 39 | 3278H-3X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.35 | 1.05 | 2.10 | 0.65 | 3.00 | 39 | 3278H-3X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.40 | 1.20 | 2.40 | 0.75 | 3.00 | 39 | 3278H-3X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.45 | 1.35 | 2.70 | 0.85 | 3.00 | 39 | 3278H-3X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.50 | 1.50 | 3.00 | 0.95 | 3.00 | 39 | 3278H-3X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.55 | 1.65 | 3.30 | 1.05 | 3.00 | 39 | 3278H-3X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 0.60 | 1.80 | 3.60 | 1.15 | 3.00 | 39 | 3278H-3X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.65 | 1.95 | 3.90 | 1.25 | 3.00 | 39 | 3278H-3X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.70 | 2.10 | 4.20 | 1.35 | 3.00 | 39 | 3278H-3X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.75 | 2.25 | 4.50 | 1.45 | 3.00 | 39 | 3278H-3X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 0.80 | 2.40 | 4.80 | 1.55 | 3.00 | 39 | 3278H-3X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 0.85 | 2.55 | 5.10 | 1.65 | 3.00 | 39 | 3278H-3X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 0.90 | 2.70 | 5.40 | 1.75 | 3.00 | 39 | 3278H-3X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 0.95 | 2.85 | 5.70 | 1.85 | 3.00 | 39 | 3278H-3X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 1.00 | 3.00 | 6.00 | 1.95 | 6.00 | 50 | 3278H-3X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 1.05 | 3.15 | 6.30 | 2.05 | 6.00 | 50 | 3278H-3X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 1.10 | 3.30 | 6.60 | 2.15 | 6.00 | 50 | 3278H-3X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 1.15 | 3.45 | 6.90 | 2.25 | 6.00 | 50 | 3278H-3X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 1.20 | 3.60 | 7.20 | 2.35 | 6.00 | 50 | 3278H-3X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 1.25 | 3.75 | 7.50 | 2.45 | 6.00 | 50 | 3278H-3X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 1.50 | 4.50 | 9.00 | 2.95 | 6.00 | 50 | 3278H-3X-3.00 | ● | ● | ● | ● | ● |

# 3278H-6X

Micro-fraises hémisphériques
Vollradius Mikrofräser
Ball nose micro end mills




MD VHM HM | λ 30° | L3 6xD1 | Z=2

| D1 +0.005/ -0.010 | R | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.15 | 0.45 | 1.80 | 0.27 | 3.00 | 39 | 3278H-6X-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.20 | 0.60 | 2.40 | 0.37 | 3.00 | 39 | 3278H-6X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.25 | 0.75 | 3.00 | 0.45 | 3.00 | 39 | 3278H-6X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.30 | 0.90 | 3.60 | 0.55 | 3.00 | 39 | 3278H-6X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.35 | 1.05 | 4.20 | 0.65 | 3.00 | 39 | 3278H-6X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.40 | 1.20 | 4.80 | 0.75 | 3.00 | 39 | 3278H-6X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.45 | 1.35 | 5.40 | 0.85 | 3.00 | 39 | 3278H-6X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.50 | 1.50 | 6.00 | 0.95 | 3.00 | 39 | 3278H-6X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.55 | 1.65 | 6.60 | 1.05 | 3.00 | 39 | 3278H-6X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 0.60 | 1.80 | 7.20 | 1.15 | 3.00 | 39 | 3278H-6X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.65 | 1.95 | 7.80 | 1.25 | 3.00 | 39 | 3278H-6X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.70 | 2.10 | 8.40 | 1.35 | 3.00 | 39 | 3278H-6X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.75 | 2.25 | 9.00 | 1.45 | 3.00 | 39 | 3278H-6X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 0.80 | 2.40 | 9.60 | 1.55 | 3.00 | 39 | 3278H-6X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 0.85 | 2.55 | 10.20 | 1.65 | 3.00 | 39 | 3278H-6X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 0.90 | 2.70 | 10.80 | 1.75 | 3.00 | 39 | 3278H-6X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 0.95 | 2.85 | 11.40 | 1.85 | 3.00 | 39 | 3278H-6X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 1.00 | 3.00 | 12.00 | 1.95 | 6.00 | 50 | 3278H-6X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 1.05 | 3.15 | 12.60 | 2.05 | 6.00 | 50 | 3278H-6X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 1.10 | 3.30 | 13.20 | 2.15 | 6.00 | 50 | 3278H-6X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 1.15 | 3.45 | 13.80 | 2.25 | 6.00 | 50 | 3278H-6X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 1.20 | 3.60 | 14.40 | 2.35 | 6.00 | 50 | 3278H-6X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 1.25 | 3.75 | 15.00 | 2.45 | 6.00 | 50 | 3278H-6X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 1.50 | 4.50 | 18.00 | 2.95 | 6.00 | 50 | 3278H-6X-3.00 | ● | ● | ● | ● | ● |



Zurück zum Kapitelanfang



# 3278H-9X

Micro-fraises hémisphériques
Vollradius Mikrofräser
Ball nose micro end mills




MD VHM HM | λ 30° | L3 9xD1 | Z=2

| D1 +0.005/ -0.010 | R | L2 | L3 | D3 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.40 | 0.20 | 0.60 | 3.60 | 0.37 | 3.00 | 39 | 3278H-9X-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.25 | 0.75 | 4.50 | 0.45 | 3.00 | 39 | 3278H-9X-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.30 | 0.90 | 5.40 | 0.55 | 3.00 | 39 | 3278H-9X-0.60 | ● | ● | ● | ● | ● |
| 0.70 | 0.35 | 1.05 | 6.30 | 0.65 | 3.00 | 39 | 3278H-9X-0.70 | ● | ● | ● | ● | ● |
| 0.80 | 0.40 | 1.20 | 7.20 | 0.75 | 3.00 | 39 | 3278H-9X-0.80 | ● | ● | ● | ● | ● |
| 0.90 | 0.45 | 1.35 | 8.10 | 0.85 | 3.00 | 39 | 3278H-9X-0.90 | ● | ● | ● | ● | ● |
| 1.00 | 0.50 | 1.50 | 9.00 | 0.95 | 3.00 | 39 | 3278H-9X-1.00 | ● | ● | ● | ● | ● |
| 1.10 | 0.55 | 1.65 | 9.90 | 1.05 | 3.00 | 39 | 3278H-9X-1.10 | ● | ● | ● | ● | ● |
| 1.20 | 0.60 | 1.80 | 10.80 | 1.15 | 3.00 | 39 | 3278H-9X-1.20 | ● | ● | ● | ● | ● |
| 1.30 | 0.65 | 1.95 | 11.70 | 1.25 | 3.00 | 39 | 3278H-9X-1.30 | ● | ● | ● | ● | ● |
| 1.40 | 0.70 | 2.10 | 12.60 | 1.35 | 3.00 | 39 | 3278H-9X-1.40 | ● | ● | ● | ● | ● |
| 1.50 | 0.75 | 2.25 | 13.50 | 1.45 | 3.00 | 39 | 3278H-9X-1.50 | ● | ● | ● | ● | ● |
| 1.60 | 0.80 | 2.40 | 14.40 | 1.55 | 3.00 | 39 | 3278H-9X-1.60 | ● | ● | ● | ● | ● |
| 1.70 | 0.85 | 2.55 | 15.30 | 1.65 | 3.00 | 39 | 3278H-9X-1.70 | ● | ● | ● | ● | ● |
| 1.80 | 0.90 | 2.70 | 16.20 | 1.75 | 3.00 | 39 | 3278H-9X-1.80 | ● | ● | ● | ● | ● |
| 1.90 | 0.95 | 2.85 | 17.10 | 1.85 | 3.00 | 39 | 3278H-9X-1.90 | ● | ● | ● | ● | ● |
| 2.00 | 1.00 | 3.00 | 18.00 | 1.95 | 6.00 | 50 | 3278H-9X-2.00 | ● | ● | ● | ● | ● |
| 2.10 | 1.05 | 3.15 | 18.90 | 2.05 | 6.00 | 50 | 3278H-9X-2.10 | ● | ● | ● | ● | ● |
| 2.20 | 1.10 | 3.30 | 19.80 | 2.15 | 6.00 | 50 | 3278H-9X-2.20 | ● | ● | ● | ● | ● |
| 2.30 | 1.15 | 3.45 | 20.70 | 2.25 | 6.00 | 50 | 3278H-9X-2.30 | ● | ● | ● | ● | ● |
| 2.40 | 1.20 | 3.60 | 21.60 | 2.35 | 6.00 | 50 | 3278H-9X-2.40 | ● | ● | ● | ● | ● |
| 2.50 | 1.25 | 3.75 | 22.50 | 2.45 | 6.00 | 50 | 3278H-9X-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 1.50 | 4.50 | 27.00 | 2.95 | 6.00 | 50 | 3278H-9X-3.00 | ● | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

> 16.54

| Z | λ | D1 | D2 | Type | Corner | page |
|---|---|---|---|---|---|---|
| Z=3 | Div. | Ø1.00- 8.00 | Ø3/6/8 | E-DHP3300-1.5 | | > 16.57 |
| Z=4 | 26° / 33° | Ø10.00 | Ø10h6 | E-DHP3400-1.5 | | |
| Z=3 | Div. | Ø1.00- 8.00 | Ø3/6/8 | E-DHP3300-2.5 | | |
| Z=4 | 26° / 33° | Ø10.00 | Ø10h6 | E-DHP3400-2.5 | | |
| Z=1 | 23° | Ø1.00 - 6.00 | Ø6 h5 | 3123-2 | Sharp Corner | > 16.58 |
| | | Ø1.00 - 6.00 | Ø6 h5 | 3123-4 | | > 16.59 |
| Z=2 | 60° | Ø0.50 - 6.00 | Ø3/6/8 | 3260MV | | > 16.60 |
| | 90° | Ø0.30 - 6.00 | Ø3/6/8 | 3290MV | | > 16.61 |
| | 120° | Ø0.50 - 6.00 | Ø3/6/8 | 32120MV | | > 16.62 |
| Z=2 | 30° | Ø1.00 - 6.00 | Ø6 h5 | 3230 | Sharp Corner | > 16.63 |
| | | Ø3.00 - 6.00 | Ø6 h5 | 3230-1.5 | | > 16.64 |
| | | Ø3.00 - 6.00 | Ø6 h5 | 3230-3 | | > 16.65 |
| | | Ø2.00 - 6.00 | D1 = D2 | 3231 | | > 16.66 |
| | | Ø3.00 - 6.00 | Ø6 h5 | 3239T-2.5X | U | > 16.67 |
| | | Ø3.00 - 6.00 | Ø6 h5 | 3239T-4X | | > 16.68 |
| Z=3 | 30° | Ø1.00 - 6.00 | Ø6 h5 | 3330-S | Sharp Corner | > 16.69 |
| | | Ø3.00-12.00 | D1 = D2 | 3330 | | > 16.70 |
| | | Ø3.00 - 6.00 | Ø6 h5 | 3330-4 | | > 16.71 |
| | | Ø2.00 - 6.00 | D1 = D2 | 3331 | | > 16.72 |
| | | Ø1.50 - 6.00 | Ø6 h5 | 3336-HA | | > 16.73 |
| | | Ø1.50 - 6.00 | Ø6 h5 | 3337-HA | | > 16.73 |
| | 45° | Ø2.00 - 6.00 | D1 = D2 | 3341 | | > 16.74 |
| | | Ø0.50 - 6.00 | Ø6 h5 | 3345-S | | > 16.75 |
| | 60° | Ø2.00 - 6.00 | D1 = D2 | 3361 | | > 16.76 |
| | 35° / 38° | Ø1.00- 6.00 | Ø6 h5 | DHP3336 | | > 16.77 |
| Z=4 | 30° | Ø3.00 - 6.00 | D1 = D2 | 3430 | Sharp Corner | > 16.78 |
| | | Ø2.00 - 6.00 | D1 = D2 | 3431 | | > 16.79 |
| | 45° | Ø2.00 - 6.00 | D1 = D2 | 3441 | | > 16.80 |
| | | Ø0.50 - 6.00 | Ø6 h5 | 3445-S | | > 16.81 |
| | 50° | Ø1.00- 6.00 | Ø6 h5 | 3450 | | > 16.82 |
| | 35° / 38° | Ø1.00- 6.00 | Ø6 h5 | DHP3436 | | > 16.83 |
| | 30° | Ø3.00 - 6.00 | Ø6 h5 | 3439T-2.5X | U | > 16.84 |
| | | Ø3.00 - 6.00 | Ø6 h5 | 3439T-4X | | > 16.85 |
| Z=5 | 45° | Ø1.00- 6.00 | Ø6 h5 | 3545 | Sharp Corner | > 16.86 |
| Z=4/5/6 | | Ø1.00- 6.00 | Ø6 h5 | 35645 | | > 16.87 |
| Z=8 | 10° | Ø6.00 | Ø6 h5 | 3810 | | > 16.88 |



Zurück zum Kapitelanfang

MICRO-Line

Fraises en bout
Schaftfräser
End mills

Index

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

> 16.54

| Z | λ | D1 | D2 | Type | Corner | page |
|---|---|---|---|---|---|---|
| Z=2 | 30° | Ø2.00 - 6.00 | D1 = D2 | 3238 | U | > 16.89 |
| Z=3 | 30° | Ø2.00 - 6.00 | D1 = D2 | 3338 | | > 16.90 |
| Z=3 | 30° | Ø8.00-12.00 | Ø6 h6 | 3383 | Sharp Corner | > 16.91 |
| Z=10 | 30° | Ø16.3 / 20.30 | Ø10 h6 | 3831 / 3833 | | > 16.92 |
| Z=3 | 0° | Ø0.50 -3.00 | Ø3 h4 | 3611 | Sharp Corner | > 16.93 |
| Z=3 | 0° | Ø0.50 -3.00 | Ø3 h4 | 3911 | | > 16.94 |
| Z=4 | 0° | Ø3.00-8.00 | Ø3 h4<br>Ø6 h5<br>Ø8 h6 | 1901 / 3901 | | > 16.95 |

| Matière / Werkstoff / Material | | VC (m/min) | 1.0 - 2.0 fz (mm) | 2.0 - 4.0 fz (mm) | 4.0 - 6.0 fz (mm) | 6.0 - 10.0 fz (mm) | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|---|
| Acier de décolletage Automatenstahl Free-cutting steel | P | 100 - 140 | 0.010 - 0.015 | 0.015 - 0.030 | 0.030 - 0.040 | 0.040 - 0.060 | - | ★★★ | ★★★ |
| Acier Stahl Steel <600 N/mm² | P | 90 - 140 | 0.010 - 0.015 | 0.015 - 0.030 | 0.030 - 0.040 | 0.040 - 0.060 | - | ★★★ | ★★★ |
| Acier Stahl Steel <800 N/mm² | P | 90 - 140 | 0.010 - 0.015 | 0.015 - 0.030 | 0.030 - 0.040 | 0.040 - 0.060 | - | ★★★ | ★★★ |
| Acier Stahl Steel >800 N/mm² | P | 80 - 120 | 0.010 - 0.015 | 0.015 - 0.030 | 0.030 - 0.040 | 0.040 - 0.060 | - | ★★★ | ★★★ |
| Acier trempé Gehärteter Stahl -55HRC Hardened steel | H | 120 - 170 | 0.005 - 0.008 | 0.008 - 0.015 | 0.015 - 0.020 | 0.020 - 0.035 | - | ★★★ | ★★★ |
| Acier trempé Gehärteter Stahl +55HRC Hardened steel | H | 110 - 150 | 0.005 - 0.008 | 0.008 - 0.015 | 0.015 - 0.020 | 0.020 - 0.035 | - | ★★★ | ★★★ |
| Inox Rostfreistahl Stainless steel | M | 50 - 90 | 0.004 - 0.008 | 0.008 - 0.012 | 0.012 - 0.020 | 0.020 - 0.040 | - | ★★★ | ★★★ |
| Aluminium | N | 250 - 350 | 0.008 - 0.015 | 0.015 - 0.030 | 0.030 - 0.040 | 0.040 - 0.065 | - | ★★★ | ★★ |
| Cuivre, laiton, bronze Kupfer, Messing, Bronze Copper, brass, bronze | N | 130 - 240 | 0.005 - 0.010 | 0.010 - 0.020 | 0.020 - 0.030 | 0.030 - 0.050 | - | ★★★ | ★★ |
| Matière synthétique Synthetisches Material Synthetic material | N | 150 - 300 | 0.020 - 0.030 | 0.030 - 0.050 | 0.050 - 0.080 | 0.080 - 0.150 | - | ★★★ | ★★ |
| Métaux précieux Edelmetalle Precious metals | N | 120 - 150 | 0.005 - 0.010 | 0.010 - 0.020 | 0.020 - 0.030 | 0.030 - 0.050 | - | ★★★ | ★★ |
| Titane Titan Titanium | S | 50 - 100 | 0.010 - 0.015 | 0.015 - 0.020 | 0.020 - 0.030 | 0.030 - 0.050 | - | ★★★ | ★★★ |
| Alliage de nickel Nickel-Legierung Nickel alloy | S | 40 - 60 | 0.005 - 0.007 | 0.007-0.012 | 0.012 - 0.020 | 0.020 - 0.030 | - | ★★★ | ★★★ |
| Matière exotique Exotisches material Exotic material | O | 15 - 25 | 0.005 - 0.010 | 0.010 - 0.020 | 0.020 - 0.030 | 0.030 - 0.050 | - | ★★★ | ★★★ |

Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Datenum 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Verygood
★★★ Excellent / Ausgezeichnet / Excellent



Zurück zum Kapitelanfang



| Matière / Werkstoff / Material | | VC (m/min) | 0.50 - 2.0 fz (mm) | 2.0 - 4.0 fz (mm) | 4.0 - 6.0 fz (mm) | 6.0 - 8.0 fz (mm) | 8.0 - 12.0 fz (mm) | N | TiAlN | STF | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acier de décolletage Automatenstahl Free-cutting steel | P | 80 - 130 | 0.004-0.015 | 0.015 - 0.025 | 0.025 - 0.035 | 0.035 - 0.050 | 0.050 - 0.080 | - | ★★★ | ★★★ | - |
| Acier Stahl Steel <600 N/mm² | P | 70 - 100 | 0.004-0.015 | 0.015 - 0.025 | 0.025 - 0.035 | 0.035 - 0.050 | 0.050 - 0.080 | - | ★★★ | ★★★ | - |
| Acier Stahl Steel <800 N/mm² | P | 70 - 100 | 0.004-0.015 | 0.015 - 0.025 | 0.025 - 0.035 | 0.035 - 0.050 | 0.050 - 0.080 | - | ★★★ | ★★★ | - |
| Acier Stahl Steel >800 N/mm² | P | 50 - 80 | 0.004-0.015 | 0.015 - 0.025 | 0.025 - 0.035 | 0.035 - 0.050 | 0.050 - 0.080 | - | ★★★ | ★★★ | - |
| Acier trempé Gehärteter Stahl -55HRC Hardened steel | H | 60 - 90 | 0.002 - 0.008 | 0.008 - 0.015 | 0.012 - 0.020 | 0.020 - 0.025 | 0.025 - 0.030 | - | ★★★ | ★★★ | - |
| Acier trempé Gehärteter Stahl +55HRC Hardened steel | H | 40 - 70 | 0.002 - 0.008 | 0.008 - 0.015 | 0.012 - 0.020 | 0.020 - 0.025 | 0.020 - 0.030 | - | ★★★ | ★★★ | - |
| Inox Rostfreistahl Stainless steel | M | 40 - 80 | 0.003 - 0.008 | 0.008 - 0.015 | 0.015 - 0.020 | 0.020 - 0.030 | 0.030 - 0.050 | - | ★★★ | ★★★ | - |
| Aluminium | N | 230 - 320 | 0.003 - 0.010 | 0.010 - 0.025 | 0.025 - 0.030 | 0.030 - 0.050 | 0.050 - 0.080 | ★★ | ★ | ★★ | ★★★ |
| Cuivre, laiton, bronze Kupfer, Messing, Bronze Copper, brass, bronze | N | 100 - 190 | 0.003 - 0.010 | 0.010 - 0.020 | 0.020 - 0.030 | 0.030 - 0.040 | 0.040 - 0.070 | ★★ | ★ | ★★ | ★★★ |
| Matière synthétique Synthetisches Material Synthetic material | N | 250 - 500 | 0.005 - 0.030 | 0.030 - 0.050 | 0.050 - 0.080 | 0.080 - 0.100 | 0.100 - 0.200 | ★★★ | - | ★★ | ★★★ |
| Métaux précieux Edelmetalle Precious metals | N | 90 - 150 | 0.003 - 0.015 | 0.015 - 0.025 | 0.025 - 0.030 | 0.030 - 0.050 | 0.050 - 0.080 | ★★★ | ★ | ★★ | ★★★ |
| Titane Titan Titanium | S | 30 - 70 | 0.004 - 0.010 | 0.010 - 0.017 | 0.017-0.025 | 0.025 - 0.035 | 0.035 - 0.050 | - | ★★ | ★★★ | - |
| Alliage de nickel Nickel-Legierung Nickel alloy | S | 30 - 60 | 0.003 - 0.008 | 0.008 - 0.015 | 0.015 - 0.020 | 0.020 - 0.025 | 0.025 - 0.040 | - | ★★★ | ★★★ | - |
| Matière exotique Exotisches material Exotic material | O | 15 - 25 | 0.002 - 0.008 | 0.008 - 0.020 | 0.020 - 0.030 | 0.030 - 0.040 | 0.040 - 0.050 | - | ★★★ | ★★★ | ★★ |

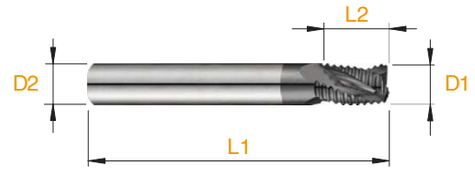
Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Datenum 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Verygood
★★★ Excellent / Ausgezeichnet / Excellent

| Matière / Werkstoff / Material | | VC (m/min) | N | TiAlN | STF |
|---|---|---|---|---|---|
| Acier de décolletage / Automatenstahl / Free-cutting steel | P | 80 - 130 | ★ | ★★★ | ★★★ |
| Acier / Stahl / Steel <600 N/mm² | P | 70 - 100 | ★ | ★★★ | ★★★ |
| Acier / Stahl / Steel <800 N/mm² | P | 70 - 100 | ★ | ★★★ | ★★★ |
| Acier / Stahl / Steel >800 N/mm² | P | 50 - 80 | ★ | ★★★ | ★★★ |
| Acier trempé / Gehärteter Stahl -55HRC / Hardened steel | H | 60 - 90 | - | ★★ | ★★★ |
| Acier trempé / Gehärteter Stahl +55HRC / Hardened steel | H | 40 - 70 | - | ★★ | ★★★ |
| Inox / Rostfreistahl / Stainless steel | M | 50 - 100 | ★ | ★★★ | ★★★ |
| Aluminium | N | 200 - 300 | ★★★ | ★★ | ★★★ |
| Cuivre, laiton, bronze / Kupfer, Messing, Bronze / Copper, brass, bronze | N | 100 - 200 | ★★★ | ★★ | ★★★ |
| Matière synthétique / Synthetisches Material / Synthetic material | N | 200 - 500 | ★★★ | ★★ | ★★ |
| Métaux précieux / Edelmetalle / Precious metals | N | 90 - 140 | ★★★ | ★★ | ★★★ |
| Titane / Titan / Titanium | S | 30 - 80 | - | ★★★ | ★★★ |
| Alliage de nickel / Nickel-Legierung / Nickel alloy | S | 30 - 60 | - | ★★★ | ★★★ |
| Matière exotique / Exotisches material / Exotic material | O | 20 - 30 | - | ★★★ | ★★★ |

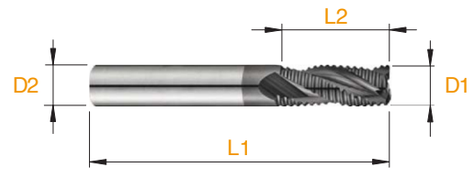
Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Datenum 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Very good
★★★ Excellent / Ausgezeichnet / Excellent



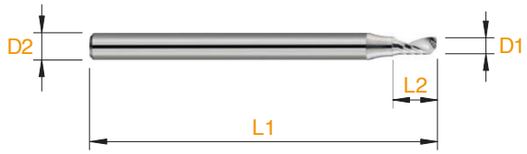

MD VHM HM — 45° E — 1.5xD1

| | Z | E | λ | D1 h10 | L2 | D2 Ø3 h4 Ø6 h5 Ø8 h6 Ø10 h6 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3 | 0.05 | 26°/30° | 1.00 | 1.50 | 3.00 | 39 | E-DHP3300-1.5-1.00 | ● | ● | ● |
| | 3 | 0.10 | 26°/30° | 1.50 | 2.25 | 3.00 | 39 | E-DHP3300-1.5-1.50 | ● | ● | ● |
| | 3 | 0.20 | 26°/30° | 2.00 | 3.00 | 3.00 | 39 | E-DHP3300-1.5-2.00 | ● | ● | ● |
| | 3 | 0.20 | 26°/33° | 2.50 | 3.75 | 6.00 | 50 | E-DHP3300-1.5-2.50 | ● | ● | ● |
| | 3 | 0.20 | 26°/33° | 3.00 | 4.25 | 6.00 | 50 | E-DHP3300-1.5-3.00 | ● | ● | ● |
| | 3 | 0.30 | 26°/33° | 4.00 | 6.00 | 6.00 | 50 | E-DHP3300-1.5-4.00 | ● | ● | ● |
| | 3 | 0.30 | 26°/33° | 5.00 | 7.50 | 6.00 | 50 | E-DHP3300-1.5-5.00 | ● | ● | ● |
| | 3 | 0.40 | 26°/33° | 6.00 | 9.00 | 6.00 | 50 | E-DHP3300-1.5-6.00 | ● | ● | ● |
| | 3 | 0.50 | 26°/33° | 8.00 | 12.00 | 8.00 | 64 | E-DHP3300-1.5-8.00 | ● | ● | ● |
| | 4 | 0.50 | 26°/33° | 10.00 | 15.00 | 10.00 | 73 | E-DHP3400-1.5-10.00 | ● | ● | ● |




MD VHM HM — 45° E — 2.5xD1

| | Z | E | λ | D1 h10 | L2 | D2 Ø3 h4 Ø6 h5 Ø8 h6 Ø10 h6 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3 | 0.05 | 26°/30° | 1.00 | 2.50 | 3.00 | 39 | E-DHP3300-2.5-1.00 | ● | ● | ● |
| | 3 | 0.10 | 26°/30° | 1.50 | 3.75 | 3.00 | 39 | E-DHP3300-2.5-1.50 | ● | ● | ● |
| | 3 | 0.20 | 26°/30° | 2.00 | 5.00 | 3.00 | 39 | E-DHP3300-2.5-2.00 | ● | ● | ● |
| | 3 | 0.20 | 26°/33° | 2.50 | 6.25 | 6.00 | 57 | E-DHP3300-2.5-2.50 | ● | ● | ● |
| | 3 | 0.20 | 26°/33° | 3.00 | 7.50 | 6.00 | 57 | E-DHP3300-2.5-3.00 | ● | ● | ● |
| | 3 | 0.30 | 26°/33° | 4.00 | 10.00 | 6.00 | 57 | E-DHP3300-2.5-4.00 | ● | ● | ● |
| | 3 | 0.30 | 26°/33° | 5.00 | 12.50 | 6.00 | 57 | E-DHP3300-2.5-5.00 | ● | ● | ● |
| | 3 | 0.40 | 26°/33° | 6.00 | 15.00 | 6.00 | 57 | E-DHP3300-2.5-6.00 | ● | ● | ● |
| | 3 | 0.50 | 26°/33° | 8.00 | 20.00 | 8.00 | 64 | E-DHP3300-2.5-8.00 | ● | ● | ● |
| | 4 | 0.50 | 26°/33° | 10.00 | 25.00 | 10.00 | 73 | E-DHP3400-2.5-10.00 | ● | ● | ● |




MD
VHM
HM

λ 23°

Sharp Corner

2xD1

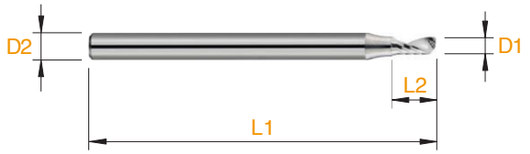
Z=1

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF | DLC |
|---|---|---|---|---|---|---|---|---|
| 1.00 | 2.00 | 6.00 | 50 | 3123-2-1.0 | ● | ● | ● | ● |
| 2.00 | 4.00 | 6.00 | 50 | 3123-2-2.0 | ● | ● | ● | ● |
| 3.00 | 6.00 | 6.00 | 50 | 3123-2-3.0 | ● | ● | ● | ● |
| 4.00 | 8.00 | 6.00 | 50 | 3123-2-4.0 | ● | ● | ● | ● |
| 5.00 | 10.00 | 6.00 | 50 | 3123-2-5.0 | ● | ● | ● | ● |
| 6.00 | 12.00 | 6.00 | 50 | 3123-2-6.0 | ● | ● | ● | ● |



Zurück zum Kapitelanfang






MD
VHM
HM

λ 23°

Sharp Corner

4xD1

Z=1

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF | DLC |
|---|---|---|---|---|---|---|---|---|
| 1.00 | 4.00 | 6.00 | 50 | 3123-4-1.0 | ● | ● | ● | ● |
| 2.00 | 8.00 | 6.00 | 50 | 3123-4-2.0 | ● | ● | ● | ● |
| 3.00 | 12.00 | 6.00 | 50 | 3123-4-3.0 | ● | ● | ● | ● |
| 4.00 | 16.00 | 6.00 | 50 | 3123-4-4.0 | ● | ● | ● | ● |
| 5.00 | 20.00 | 6.00 | 50 | 3123-4-5.0 | ● | ● | ● | ● |
| 6.00 | 24.00 | 6.00 | 50 | 3123-4-6.0 | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request




MD
VHM
HM

60°

Z=2

| D1 h10 | E | L2 | D2 Ø3 h4 Ø6 h5 Ø8 h6 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|
| 0.50 | 0.05 | 1.00 | 3.00 | 39 | 3260MV-0.5 | ● | ● | ● |
| 1.00 | 0.10 | 2.00 | 3.00 | 39 | 3260MV-1.0 | ● | ● | ● |
| 1.50 | 0.15 | 3.00 | 3.00 | 39 | 3260MV-1.5 | ● | ● | ● |
| 2.00 | 0.20 | 4.00 | 3.00 | 39 | 3260MV-2.0 | ● | ● | ● |
| 2.50 | 0.25 | 5.00 | 3.00 | 39 | 3260MV-2.5 | ● | ● | ● |
| 3.00 | 0.30 | 6.00 | 6.00 | 50 | 3260MV-3.0 | ● | ● | ● |
| 4.00 | 0.40 | 8.00 | 6.00 | 50 | 3260MV-4.0 | ● | ● | ● |
| 6.00 | 0.60 | 12.00 | 8.00 | 64 | 3260MV-6.0 | ● | ● | ● |



Zurück zum Kapitelanfang






MD
VHM
HM

90°

Z=2

| D1 h10 | E | L2 | D2 Ø3 h4 Ø6 h5 Ø8 h6 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.03 | 0.60 | 3.00 | 39 | 3290MV-0.3 | ● | ● | ● |
| 0.40 | 0.04 | 0.80 | 3.00 | 39 | 3290MV-0.4 | ● | ● | ● |
| 0.50 | 0.05 | 1.00 | 3.00 | 39 | 3290MV-0.5 | ● | ● | ● |
| 0.60 | 0.06 | 1.20 | 3.00 | 39 | 3290MV-0.6 | ● | ● | ● |
| 0.70 | 0.07 | 1.40 | 3.00 | 39 | 3290MV-0.7 | ● | ● | ● |
| 0.80 | 0.08 | 1.60 | 3.00 | 39 | 3290MV-0.8 | ● | ● | ● |
| 0.90 | 0.09 | 1.80 | 3.00 | 39 | 3290MV-0.9 | ● | ● | ● |
| 1.00 | 0.10 | 2.00 | 3.00 | 39 | 3290MV-1.0 | ● | ● | ● |
| 1.10 | 0.11 | 2.20 | 3.00 | 39 | 3290MV-1.1 | ● | ● | ● |
| 1.20 | 0.12 | 2.40 | 3.00 | 39 | 3290MV-1.2 | ● | ● | ● |
| 1.30 | 0.13 | 2.60 | 3.00 | 39 | 3290MV-1.3 | ● | ● | ● |
| 1.40 | 0.14 | 2.80 | 3.00 | 39 | 3290MV-1.4 | ● | ● | ● |
| 1.50 | 0.15 | 3.00 | 3.00 | 39 | 3290MV-1.5 | ● | ● | ● |
| 1.60 | 0.16 | 3.20 | 3.00 | 39 | 3290MV-1.6 | ● | ● | ● |
| 1.70 | 0.17 | 3.40 | 3.00 | 39 | 3290MV-1.7 | ● | ● | ● |
| 1.80 | 0.18 | 3.60 | 3.00 | 39 | 3290MV-1.8 | ● | ● | ● |
| 1.90 | 0.19 | 3.80 | 3.00 | 39 | 3290MV-1.9 | ● | ● | ● |
| 2.00 | 0.20 | 4.00 | 3.00 | 39 | 3290MV-2.0 | ● | ● | ● |
| 2.50 | 0.25 | 5.00 | 3.00 | 39 | 3290MV-2.5 | ● | ● | ● |
| 3.00 | 0.30 | 6.00 | 6.00 | 50 | 3290MV-3.0 | ● | ● | ● |
| 4.00 | 0.40 | 8.00 | 6.00 | 50 | 3290MV-4.0 | ● | ● | ● |
| 6.00 | 0.60 | 12.00 | 8.00 | 64 | 3290MV-6.0 | ● | ● | ● |




MD
VHM
HM

120°

Z=2

| D1 h10 | E | L2 | D2 Ø3 h4 Ø6 h5 Ø8 h6 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|
| 0.50 | 0.05 | 1.00 | 3.00 | 39 | 32120MV-0.5 | ● | ● | ● |
| 1.00 | 0.10 | 2.00 | 3.00 | 39 | 32120MV-1.0 | ● | ● | ● |
| 1.50 | 0.15 | 3.00 | 3.00 | 39 | 32120MV-1.5 | ● | ● | ● |
| 2.00 | 0.20 | 4.00 | 3.00 | 39 | 32120MV-2.0 | ● | ● | ● |
| 2.50 | 0.25 | 5.00 | 3.00 | 39 | 32120MV-2.5 | ● | ● | ● |
| 3.00 | 0.30 | 6.00 | 6.00 | 50 | 32120MV-3.0 | ● | ● | ● |
| 4.00 | 0.40 | 8.00 | 6.00 | 50 | 32120MV-4.0 | ● | ● | ● |
| 6.00 | 0.60 | 12.00 | 8.00 | 64 | 32120MV-6.0 | ● | ● | ● |



Zurück zum Kapitelanfang






MD
VHM
HM

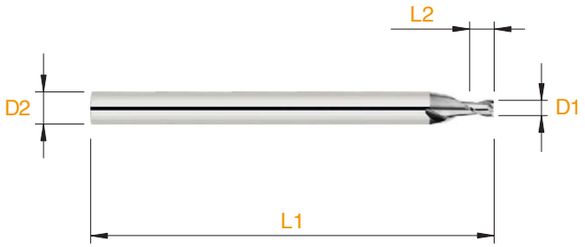
λ 30°

Sharp Corner

Z=2

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 1.00 | 1.00 | 6.00 | 50 | 3230-1.0 | ● | ● | ● |
| 1.50 | 1.50 | 6.00 | 50 | 3230-1.5 | ● | ● | ● |
| 2.00 | 2.00 | 6.00 | 50 | 3230-2.0 | ● | ● | ● |
| 2.50 | 2.50 | 6.00 | 50 | 3230-2.5 | ● | ● | ● |
| 3.00 | 3.00 | 6.00 | 50 | 3230-3.0 | ● | ● | ● |
| 4.00 | 4.00 | 6.00 | 50 | 3230-4.0 | ● | ● | ● |
| 5.00 | 5.00 | 6.00 | 50 | 3230-5.0 | ● | ● | ● |
| 6.00 | 6.00 | 6.00 | 50 | 3230-6.0 | ● | ● | ● |

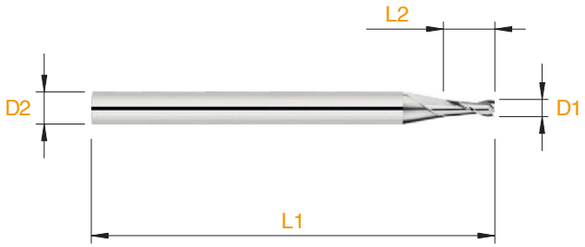
Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request




MD VHM HM | λ 30° | Sharp Corner | 1.5xD1 | Z=2

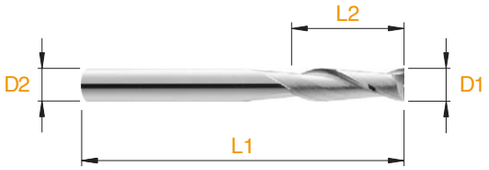
| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 3.00 | 4.50 | 6.00 | 50 | 3230-1.5-3.0 | ● | ● | ● |
| 3.50 | 5.00 | 6.00 | 50 | 3230-1.5-3.5 | ● | ● | ● |
| 4.00 | 6.00 | 6.00 | 50 | 3230-1.5-4.0 | ● | ● | ● |
| 4.50 | 7.00 | 6.00 | 50 | 3230-1.5-4.5 | ● | ● | ● |
| 5.00 | 8.00 | 6.00 | 50 | 3230-1.5-5.0 | ● | ● | ● |
| 6.00 | 9.00 | 6.00 | 50 | 3230-1.5-6.0 | ● | ● | ● |






MD VHM HM | λ 30° | Sharp Corner | 3xD1 | Z=2

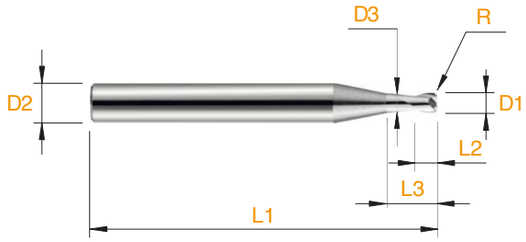
| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 3.00 | 9.00 | 6.00 | 50 | 3230-3-3.0 | ● | ● | ● |
| 3.50 | 10.00 | 6.00 | 50 | 3230-3-3.5 | ● | ● | ● |
| 4.00 | 12.00 | 6.00 | 50 | 3230-3-4.0 | ● | ● | ● |
| 4.50 | 13.00 | 6.00 | 50 | 3230-3-4.5 | ● | ● | ● |
| 5.00 | 15.00 | 6.00 | 50 | 3230-3-5.0 | ● | ● | ● |
| 6.00 | 18.00 | 6.00 | 50 | 3230-3-6.0 | ● | ● | ● |




MD VHM HM | λ 30° | Sharp Corner | Z=2

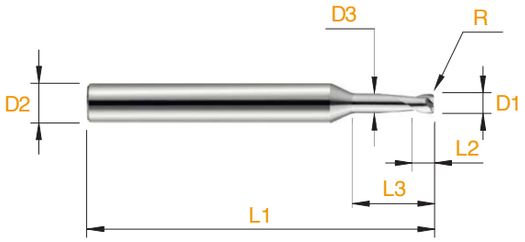
| D1 e9 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 2.00 | 8.00 | 2.00 | 32 | 3231-2.0 | ● | ● | ● |
| 2.50 | 8.00 | 2.50 | 32 | 3231-2.5 | ● | ● | ● |
| 3.00 | 12.00 | 3.00 | 32 | 3231-3.0 | ● | ● | ● |
| 3.50 | 12.00 | 3.50 | 32 | 3231-3.5 | ● | ● | ● |
| 4.00 | 12.00 | 4.00 | 40 | 3231-4.0 | ● | ● | ● |
| 4.50 | 14.00 | 4.50 | 50 | 3231-4.5 | ● | ● | ● |
| 5.00 | 14.00 | 5.00 | 50 | 3231-5.0 | ● | ● | ● |
| 6.00 | 16.00 | 6.00 | 50 | 3231-6.0 | ● | ● | ● |






MD VHM HM | λ 30° | Radius Corner | L3 2.5xD1 | Z=2

| D1 h10 | R +/- 0.02 | L2 | L3 | D3 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|---|---|
| 3.00 | 0.50 | 3.00 | 7.50 | 2.95 | 6.00 | 57 | 3239T-2.5X-3.0 | ● | ● | ● |
| 3.50 | 0.50 | 3.50 | 8.75 | 3.45 | 6.00 | 57 | 3239T-2.5X-3.5 | ● | ● | ● |
| 4.00 | 0.50 | 4.00 | 10.00 | 3.95 | 6.00 | 57 | 3239T-2.5X-4.0 | ● | ● | ● |
| 4.50 | 0.50 | 4.50 | 11.25 | 4.45 | 6.00 | 57 | 3239T-2.5X-4.5 | ● | ● | ● |
| 5.00 | 0.50 | 5.00 | 12.50 | 4.95 | 6.00 | 57 | 3239T-2.5X-5.0 | ● | ● | ● |
| 5.50 | 0.50 | 5.50 | 13.75 | 5.45 | 6.00 | 57 | 3239T-2.5X-5.5 | ● | ● | ● |
| 6.00 | 0.50 | 6.00 | 15.00 | 5.95 | 6.00 | 57 | 3239T-2.5X-6.0 | ● | ● | ● |



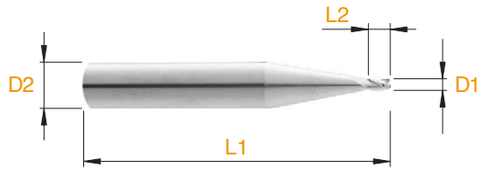

MD VHM HM | λ 30° | Radius Corner | L3 4xD1 | Z=2

| D1 h10 | R +/- 0.02 | L2 | L3 | D3 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|---|---|
| 3.00 | 0.50 | 3.00 | 12.00 | 2.95 | 6.00 | 57 | 3239T-4X-3.0 | ● | ● | ● |
| 3.50 | 0.50 | 3.50 | 14.00 | 3.45 | 6.00 | 57 | 3239T-4X-3.5 | ● | ● | ● |
| 4.00 | 0.50 | 4.00 | 16.00 | 3.95 | 6.00 | 57 | 3239T-4X-4.0 | ● | ● | ● |
| 4.50 | 0.50 | 4.50 | 18.00 | 4.45 | 6.00 | 57 | 3239T-4X-4.5 | ● | ● | ● |
| 5.00 | 0.50 | 5.00 | 20.00 | 4.95 | 6.00 | 57 | 3239T-4X-5.0 | ● | ● | ● |
| 5.50 | 0.50 | 5.50 | 22.00 | 5.45 | 6.00 | 57 | 3239T-4X-5.5 | ● | ● | ● |
| 6.00 | 0.50 | 6.00 | 24.00 | 5.95 | 6.00 | 57 | 3239T-4X-6.0 | ● | ● | ● |



Zurück zum Kapitelanfang





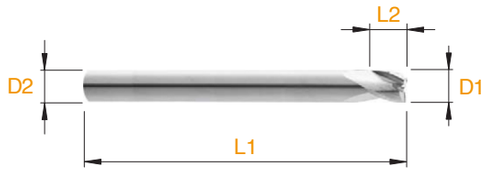

MD VHM HM | λ 30° | Sharp Corner | Z=3

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 1.00 | 3.00 | 6.00 | 40 | 3330-S-1.0 | ● | ● | ● |
| 1.50 | 3.00 | 6.00 | 40 | 3330-S-1.5 | ● | ● | ● |
| 2.00 | 3.00 | 6.00 | 40 | 3330-S-2.0 | ● | ● | ● |
| 2.50 | 3.00 | 6.00 | 40 | 3330-S-2.5 | ● | ● | ● |
| 3.00 | 4.00 | 6.00 | 40 | 3330-S-3.0 | ● | ● | ● |
| 3.50 | 4.00 | 6.00 | 40 | 3330-S-3.5 | ● | ● | ● |
| 4.00 | 5.00 | 6.00 | 40 | 3330-S-4.0 | ● | ● | ● |
| 4.50 | 5.00 | 6.00 | 40 | 3330-S-4.5 | ● | ● | ● |
| 5.00 | 6.00 | 6.00 | 40 | 3330-S-5.0 | ● | ● | ● |
| 6.00 | 7.00 | 6.00 | 40 | 3330-S-6.0 | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills





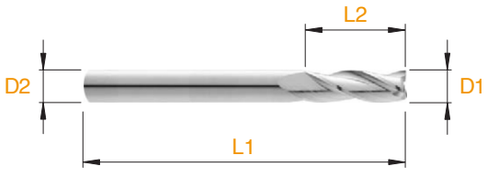

MD
VHM
HM

λ 30°

Sharp Corner

Z=3

| D1 e9 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 3.00 | 3.00 | 3.00 | 39 | 3330-3.0 | ● | ● | ● |
| 4.00 | 4.00 | 4.00 | 50 | 3330-4.0 | ● | ● | ● |
| 5.00 | 5.00 | 5.00 | 50 | 3330-5.0 | ● | ● | ● |
| 6.00 | 6.00 | 6.00 | 50 | 3330-6.0 | ● | ● | ● |
| 8.00 | 8.00 | 8.00 | 58 | 3330-8.0 | ● | | |
| 10.00 | 10.00 | 10.00 | 66 | 3330-10.0 | ● | | |
| 12.00 | 12.00 | 12.00 | 73 | 3330-12.0 | ● | | |




MD
VHM
HM

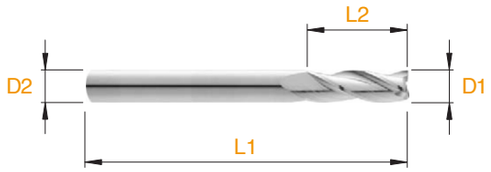
λ 30°

Sharp Corner

4xD1

Z=3

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 3.00 | 12.00 | 6.00 | 50 | 3330-4-3.0 | ● | ● | ● |
| 4.00 | 16.00 | 6.00 | 50 | 3330-4-4.0 | ● | ● | ● |
| 5.00 | 20.00 | 6.00 | 50 | 3330-4-5.0 | ● | ● | ● |
| 6.00 | 24.00 | 6.00 | 57 | 3330-4-6.0 | ● | ● | ● |



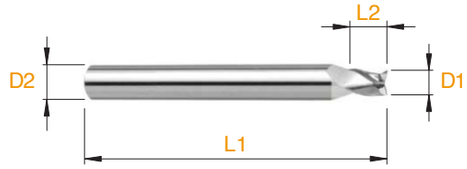

MD VHM HM | λ 30° | Sharp Corner | Z=3

| D1 e9 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 2.00 | 8.00 | 2.00 | 32 | 3331-2.0 | ● | ● | ● |
| 2.50 | 8.00 | 2.50 | 32 | 3331-2.5 | ● | ● | ● |
| 3.00 | 12.00 | 3.00 | 32 | 3331-3.0 | ● | ● | ● |
| 3.50 | 12.00 | 3.50 | 32 | 3331-3.5 | ● | ● | ● |
| 4.00 | 12.00 | 4.00 | 40 | 3331-4.0 | ● | ● | ● |
| 4.50 | 14.00 | 4.50 | 50 | 3331-4.5 | ● | ● | ● |
| 5.00 | 14.00 | 5.00 | 50 | 3331-5.0 | ● | ● | ● |
| 6.00 | 16.00 | 6.00 | 50 | 3331-6.0 | ● | ● | ● |



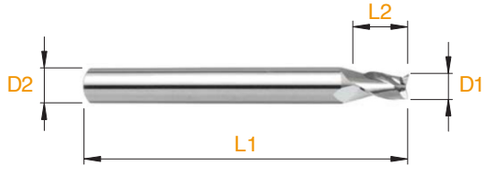
Zurück zum Kapitelanfang






MD VHM HM | λ 30° | Sharp Corner | DIN 6527K | Z=3

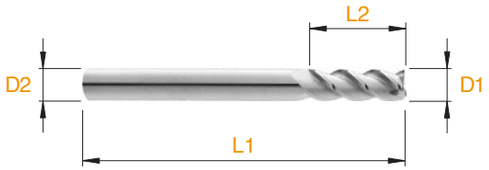
| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 1.50 | 3.00 | 6.00 | 50 | 3336-HA-1.5 | ● | ● | ● |
| 1.80 | 3.00 | 6.00 | 50 | 3336-HA-1.8 | ● | ● | ● |
| 2.00 | 3.00 | 6.00 | 50 | 3336-HA-2.0 | ● | ● | ● |
| 2.50 | 3.00 | 6.00 | 50 | 3336-HA-2.5 | ● | ● | ● |
| 2.80 | 4.00 | 6.00 | 50 | 3336-HA-2.8 | ● | ● | ● |
| 3.00 | 4.00 | 6.00 | 50 | 3336-HA-3.0 | ● | ● | ● |
| 3.50 | 4.00 | 6.00 | 50 | 3336-HA-3.5 | ● | ● | ● |
| 3.80 | 5.00 | 6.00 | 54 | 3336-HA-3.8 | ● | ● | ● |
| 4.00 | 5.00 | 6.00 | 54 | 3336-HA-4.0 | ● | ● | ● |
| 4.50 | 5.00 | 6.00 | 54 | 3336-HA-4.5 | ● | ● | ● |
| 4.80 | 6.00 | 6.00 | 54 | 3336-HA-4.8 | ● | ● | ● |
| 5.00 | 6.00 | 6.00 | 54 | 3336-HA-5.0 | ● | ● | ● |
| 5.50 | 7.00 | 6.00 | 54 | 3336-HA-5.5 | ● | ● | ● |
| 5.80 | 7.00 | 6.00 | 54 | 3336-HA-5.8 | ● | ● | ● |
| 6.00 | 7.00 | 6.00 | 54 | 3336-HA-6.0 | ● | ● | ● |




MD VHM HM | λ 30° | Sharp Corner | DIN 6527L | Z=3

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 1.50 | 6.00 | 6.00 | 57 | 3337-HA-1.5 | ● | ● | ● |
| 1.80 | 6.00 | 6.00 | 57 | 3337-HA-1.8 | ● | ● | ● |
| 2.00 | 6.00 | 6.00 | 57 | 3337-HA-2.0 | ● | ● | ● |
| 2.50 | 6.00 | 6.00 | 57 | 3337-HA-2.5 | ● | ● | ● |
| 2.80 | 7.00 | 6.00 | 57 | 3337-HA-2.8 | ● | ● | ● |
| 3.00 | 7.00 | 6.00 | 57 | 3337-HA-3.0 | ● | ● | ● |
| 3.50 | 7.00 | 6.00 | 57 | 3337-HA-3.5 | ● | ● | ● |
| 3.80 | 8.00 | 6.00 | 57 | 3337-HA-3.8 | ● | ● | ● |
| 4.00 | 8.00 | 6.00 | 57 | 3337-HA-4.0 | ● | ● | ● |
| 4.50 | 8.00 | 6.00 | 57 | 3337-HA-4.5 | ● | ● | ● |
| 4.80 | 10.00 | 6.00 | 57 | 3337-HA-4.8 | ● | ● | ● |
| 5.00 | 10.00 | 6.00 | 57 | 3337-HA-5.0 | ● | ● | ● |
| 5.50 | 10.00 | 6.00 | 57 | 3337-HA-5.5 | ● | ● | ● |
| 5.80 | 10.00 | 6.00 | 57 | 3337-HA-5.8 | ● | ● | ● |
| 6.00 | 10.00 | 6.00 | 57 | 3337-HA-6.0 | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request



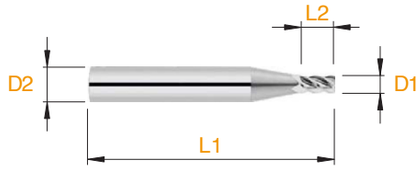

MD VHM HM | λ 45° | Sharp Corner | Z=3

| D1 e9 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 2.00 | 8.00 | 2.00 | 32 | 3341-2.0 | ● | ● | ● |
| 2.50 | 8.00 | 2.50 | 32 | 3341-2.5 | ● | ● | ● |
| 3.00 | 12.00 | 3.00 | 32 | 3341-3.0 | ● | ● | ● |
| 3.50 | 12.00 | 3.50 | 32 | 3341-3.5 | ● | ● | ● |
| 4.00 | 12.00 | 4.00 | 40 | 3341-4.0 | ● | ● | ● |
| 4.50 | 14.00 | 4.50 | 50 | 3341-4.5 | ● | ● | ● |
| 5.00 | 14.00 | 5.00 | 50 | 3341-5.0 | ● | ● | ● |
| 6.00 | 16.00 | 6.00 | 50 | 3341-6.0 | ● | ● | ● |



Zurück zum Kapitelanfang

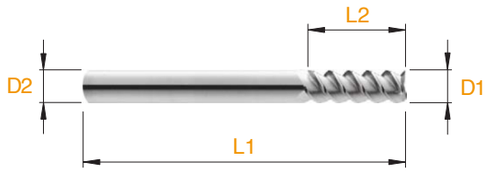





MD VHM HM | λ 45° | Sharp Corner | Z=3

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 0.50 | 1.00 | 6.00 | 40 | 3345-S-0.5 | ● | ● | ● |
| 0.60 | 1.20 | 6.00 | 40 | 3345-S-0.6 | ● | ● | ● |
| 0.70 | 1.40 | 6.00 | 40 | 3345-S-0.7 | ● | ● | ● |
| 0.80 | 1.60 | 6.00 | 40 | 3345-S-0.8 | ● | ● | ● |
| 0.90 | 1.80 | 6.00 | 40 | 3345-S-0.9 | ● | ● | ● |
| 1.00 | 2.00 | 6.00 | 40 | 3345-S-1.0 | ● | ● | ● |
| 1.10 | 2.20 | 6.00 | 40 | 3345-S-1.1 | ● | ● | ● |
| 1.20 | 2.40 | 6.00 | 40 | 3345-S-1.2 | ● | ● | ● |
| 1.30 | 2.60 | 6.00 | 40 | 3345-S-1.3 | ● | ● | ● |
| 1.40 | 2.80 | 6.00 | 40 | 3345-S-1.4 | ● | ● | ● |
| 1.50 | 3.00 | 6.00 | 40 | 3345-S-1.5 | ● | ● | ● |
| 1.60 | 3.20 | 6.00 | 40 | 3345-S-1.6 | ● | ● | ● |
| 1.70 | 3.40 | 6.00 | 40 | 3345-S-1.7 | ● | ● | ● |
| 1.80 | 3.60 | 6.00 | 40 | 3345-S-1.8 | ● | ● | ● |
| 1.90 | 3.80 | 6.00 | 40 | 3345-S-1.9 | ● | ● | ● |
| 2.00 | 4.00 | 6.00 | 40 | 3345-S-2.0 | ● | ● | ● |
| 2.10 | 4.20 | 6.00 | 40 | 3345-S-2.1 | ● | ● | ● |
| 2.20 | 4.40 | 6.00 | 40 | 3345-S-2.2 | ● | ● | ● |
| 2.30 | 4.60 | 6.00 | 40 | 3345-S-2.3 | ● | ● | ● |
| 2.40 | 4.80 | 6.00 | 40 | 3345-S-2.4 | ● | ● | ● |
| 2.50 | 5.00 | 6.00 | 40 | 3345-S-2.5 | ● | ● | ● |
| 2.60 | 5.20 | 6.00 | 40 | 3345-S-2.6 | ● | ● | ● |
| 2.70 | 5.40 | 6.00 | 40 | 3345-S-2.7 | ● | ● | ● |
| 2.80 | 5.60 | 6.00 | 40 | 3345-S-2.8 | ● | ● | ● |
| 2.90 | 5.80 | 6.00 | 40 | 3345-S-2.9 | ● | ● | ● |
| 3.00 | 6.00 | 6.00 | 40 | 3345-S-3.0 | ● | ● | ● |
| 3.50 | 7.00 | 6.00 | 40 | 3345-S-3.5 | ● | ● | ● |
| 4.00 | 8.00 | 6.00 | 40 | 3345-S-4.0 | ● | ● | ● |
| 4.50 | 9.00 | 6.00 | 40 | 3345-S-4.5 | ● | ● | ● |
| 5.00 | 10.00 | 6.00 | 40 | 3345-S-5.0 | ● | ● | ● |
| 6.00 | 12.00 | 6.00 | 40 | 3345-S-6.0 | ● | ● | ● |

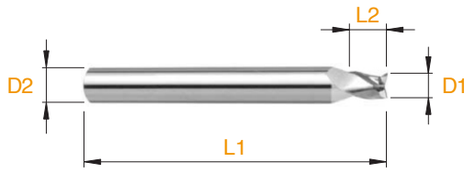
Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request




MD VHM HM | λ 60° | Sharp Corner | Z=3

| D1 e9 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 2.00 | 8.00 | 2.00 | 32 | 3361-2.0 | ● | ● | ● |
| 2.50 | 8.00 | 2.50 | 32 | 3361-2.5 | ● | ● | ● |
| 3.00 | 12.00 | 3.00 | 32 | 3361-3.0 | ● | ● | ● |
| 3.50 | 12.00 | 3.50 | 32 | 3361-3.5 | ● | ● | ● |
| 4.00 | 12.00 | 4.00 | 40 | 3361-4.0 | ● | ● | ● |
| 4.50 | 14.00 | 4.50 | 50 | 3361-4.5 | ● | ● | ● |
| 5.00 | 14.00 | 5.00 | 50 | 3361-5.0 | ● | ● | ● |
| 6.00 | 16.00 | 6.00 | 50 | 3361-6.0 | ● | ● | ● |

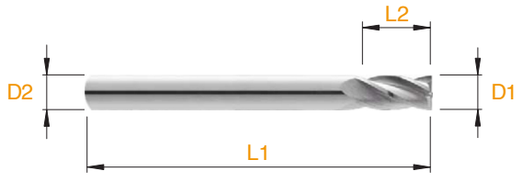





MD VHM HM | λ 35° ↓ 38° | Sharp Corner | Z=3

DHP — Dentureàpas irrégulier,héliceprogressive
UngleicheTeilung, progressiveSpirale
Uneventooth pitch, progressivehelix

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 1.00 | 4.00 | 6.00 | 40 | DHP3336-1.0 | ● | ● | ● |
| 1.50 | 4.00 | 6.00 | 40 | DHP3336-1.5 | ● | ● | ● |
| 2.00 | 4.00 | 6.00 | 40 | DHP3336-2.0 | ● | ● | ● |
| 2.50 | 4.00 | 6.00 | 40 | DHP3336-2.5 | ● | ● | ● |
| 3.00 | 5.00 | 6.00 | 40 | DHP3336-3.0 | ● | ● | ● |
| 3.50 | 5.00 | 6.00 | 40 | DHP3336-3.5 | ● | ● | ● |
| 4.00 | 6.00 | 6.00 | 40 | DHP3336-4.0 | ● | ● | ● |
| 5.00 | 7.00 | 6.00 | 40 | DHP3336-5.0 | ● | ● | ● |
| 6.00 | 8.00 | 6.00 | 40 | DHP3336-6.0 | ● | ● | ● |




MD
VHM
HM

λ 30°

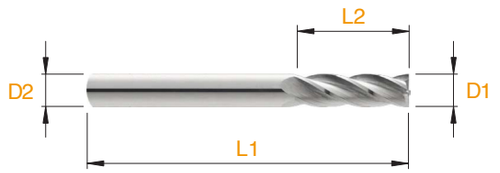
Sharp Corner

Z=4

| D1 e9 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 3.00 | 3.00 | 3.00 | 39 | 3430-3.0 | ● | ● | ● |
| 4.00 | 4.00 | 4.00 | 50 | 3430-4.0 | ● | ● | ● |
| 5.00 | 5.00 | 5.00 | 50 | 3430-5.0 | ● | ● | ● |
| 6.00 | 6.00 | 6.00 | 50 | 3430-6.0 | ● | ● | ● |







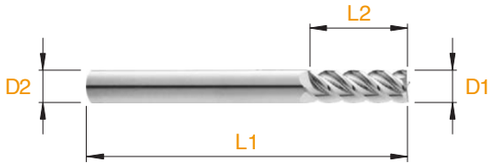

MD
VHM
HM

λ 30°

Sharp Corner

Z=4

| D1 e9 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 2.00 | 8.00 | 2.00 | 32 | 3431-2.0 | ● | ● | ● |
| 2.50 | 8.00 | 2.50 | 32 | 3431-2.5 | ● | ● | ● |
| 3.00 | 12.00 | 3.00 | 32 | 3431-3.0 | ● | ● | ● |
| 3.50 | 12.00 | 3.50 | 32 | 3431-3.5 | ● | ● | ● |
| 4.00 | 12.00 | 4.00 | 40 | 3431-4.0 | ● | ● | ● |
| 4.50 | 14.00 | 4.50 | 50 | 3431-4.5 | ● | ● | ● |
| 5.00 | 14.00 | 5.00 | 50 | 3431-5.0 | ● | ● | ● |
| 6.00 | 16.00 | 6.00 | 50 | 3431-6.0 | ● | ● | ● |




MD
VHM
HM

λ 45°

Sharp Corner

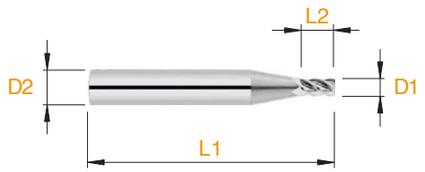
Z=4

| D1 e9 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 2.00 | 8.00 | 2.00 | 32 | 3441-2.0 | ● | ● | ● |
| 2.50 | 8.00 | 2.50 | 32 | 3441-2.5 | ● | ● | ● |
| 3.00 | 12.00 | 3.00 | 32 | 3441-3.0 | ● | ● | ● |
| 3.50 | 12.00 | 3.50 | 32 | 3441-3.5 | ● | ● | ● |
| 4.00 | 12.00 | 4.00 | 40 | 3441-4.0 | ● | ● | ● |
| 4.50 | 14.00 | 4.50 | 50 | 3441-4.5 | ● | ● | ● |
| 5.00 | 14.00 | 5.00 | 50 | 3441-5.0 | ● | ● | ● |
| 6.00 | 16.00 | 6.00 | 50 | 3441-6.0 | ● | ● | ● |



Zurück zum Kapitelanfang






MD
VHM
HM

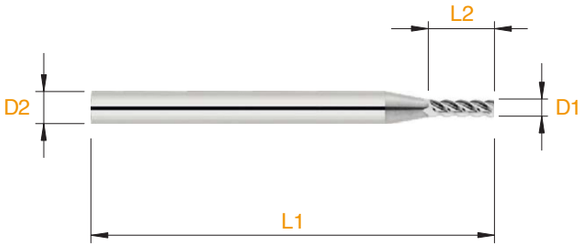
λ 45°

Sharp Corner

Z=4

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 0.50 | 1.00 | 6.00 | 40 | 3445-S-0.5 | ● | ● | ● |
| 0.60 | 1.20 | 6.00 | 40 | 3445-S-0.6 | ● | ● | ● |
| 0.70 | 1.40 | 6.00 | 40 | 3445-S-0.7 | ● | ● | ● |
| 0.80 | 1.60 | 6.00 | 40 | 3445-S-0.8 | ● | ● | ● |
| 0.90 | 1.80 | 6.00 | 40 | 3445-S-0.9 | ● | ● | ● |
| 1.00 | 2.00 | 6.00 | 40 | 3445-S-1.0 | ● | ● | ● |
| 1.10 | 2.20 | 6.00 | 40 | 3445-S-1.1 | ● | ● | ● |
| 1.20 | 2.40 | 6.00 | 40 | 3445-S-1.2 | ● | ● | ● |
| 1.30 | 2.60 | 6.00 | 40 | 3445-S-1.3 | ● | ● | ● |
| 1.40 | 2.80 | 6.00 | 40 | 3445-S-1.4 | ● | ● | ● |
| 1.50 | 3.00 | 6.00 | 40 | 3445-S-1.5 | ● | ● | ● |
| 1.60 | 3.20 | 6.00 | 40 | 3445-S-1.6 | ● | ● | ● |
| 1.70 | 3.40 | 6.00 | 40 | 3445-S-1.7 | ● | ● | ● |
| 1.80 | 3.60 | 6.00 | 40 | 3445-S-1.8 | ● | ● | ● |
| 1.90 | 3.80 | 6.00 | 40 | 3445-S-1.9 | ● | ● | ● |
| 2.00 | 4.00 | 6.00 | 40 | 3445-S-2.0 | ● | ● | ● |
| 2.10 | 4.20 | 6.00 | 40 | 3445-S-2.1 | ● | ● | ● |
| 2.20 | 4.40 | 6.00 | 40 | 3445-S-2.2 | ● | ● | ● |
| 2.30 | 4.60 | 6.00 | 40 | 3445-S-2.3 | ● | ● | ● |
| 2.40 | 4.80 | 6.00 | 40 | 3445-S-2.4 | ● | ● | ● |
| 2.50 | 5.00 | 6.00 | 40 | 3445-S-2.5 | ● | ● | ● |
| 2.60 | 5.20 | 6.00 | 40 | 3445-S-2.6 | ● | ● | ● |
| 2.70 | 5.40 | 6.00 | 40 | 3445-S-2.7 | ● | ● | ● |
| 2.80 | 5.60 | 6.00 | 40 | 3445-S-2.8 | ● | ● | ● |
| 2.90 | 5.80 | 6.00 | 40 | 3445-S-2.9 | ● | ● | ● |
| 3.00 | 6.00 | 6.00 | 40 | 3445-S-3.0 | ● | ● | ● |
| 3.50 | 7.00 | 6.00 | 40 | 3445-S-3.5 | ● | ● | ● |
| 4.00 | 8.00 | 6.00 | 40 | 3445-S-4.0 | ● | ● | ● |
| 4.50 | 9.00 | 6.00 | 40 | 3445-S-4.5 | ● | ● | ● |
| 5.00 | 10.00 | 6.00 | 40 | 3445-S-5.0 | ● | ● | ● |
| 6.00 | 12.00 | 6.00 | 40 | 3445-S-6.0 | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request




MD
VHM
HM

λ 50°

Sharp Corner

1.5xD1

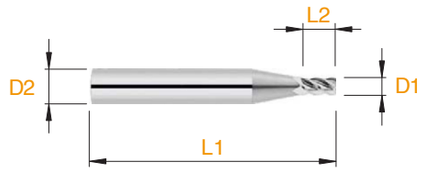
Z=4

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 1.00 | 1.50 | 6.00 | 50 | 3450-1.0 | ● | ● | ● |
| 1.50 | 2.25 | 6.00 | 50 | 3450-1.5 | ● | ● | ● |
| 2.00 | 3.00 | 6.00 | 50 | 3450-2.0 | ● | ● | ● |
| 2.50 | 3.75 | 6.00 | 50 | 3450-2.5 | ● | ● | ● |
| 3.00 | 4.50 | 6.00 | 50 | 3450-3.0 | ● | ● | ● |
| 3.50 | 5.25 | 6.00 | 50 | 3450-3.5 | ● | ● | ● |
| 4.00 | 6.00 | 6.00 | 50 | 3450-4.0 | ● | ● | ● |
| 5.00 | 7.50 | 6.00 | 50 | 3450-5.0 | ● | ● | ● |
| 6.00 | 9.00 | 6.00 | 50 | 3450-6.0 | ● | ● | ● |



Zurück zum Kapitelanfang






MD
VHM
HM

λ 35° ↓ 38°

Sharp Corner

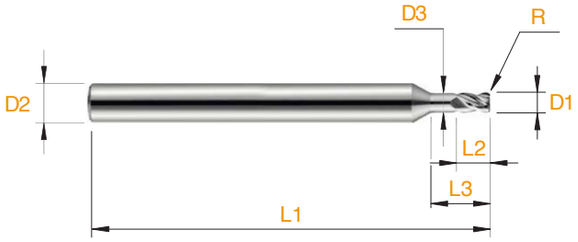
Z=4

DHP

Dentureàpas irrégulier,héliceprogressive
UngleicheTeilung, progressiveSpirale
Uneventooth pitch, progressivehelix

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 1.00 | 4.00 | 6.00 | 40 | DHP3436-1.0 | ● | ● | ● |
| 1.50 | 4.00 | 6.00 | 40 | DHP3436-1.5 | ● | ● | ● |
| 2.00 | 4.00 | 6.00 | 40 | DHP3436-2.0 | ● | ● | ● |
| 2.50 | 4.00 | 6.00 | 40 | DHP3436-2.5 | ● | ● | ● |
| 3.00 | 5.00 | 6.00 | 40 | DHP3436-3.0 | ● | ● | ● |
| 3.50 | 5.00 | 6.00 | 40 | DHP3436-3.5 | ● | ● | ● |
| 4.00 | 6.00 | 6.00 | 40 | DHP3436-4.0 | ● | ● | ● |
| 5.00 | 7.00 | 6.00 | 40 | DHP3436-5.0 | ● | ● | ● |
| 6.00 | 8.00 | 6.00 | 40 | DHP3436-6.0 | ● | ● | ● |

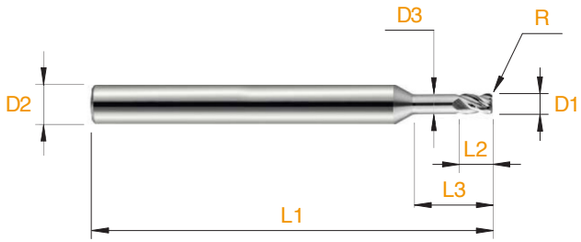
Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request




MD VHM HM | λ 30° | Radius Corner | L3 2.5xD1 | Z=4

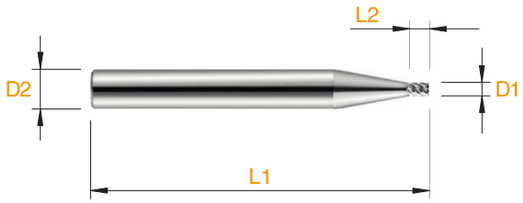
| D1 h10 | R +/- 0.02 | L2 | L3 | D3 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|---|---|
| 3.00 | 0.50 | 3.00 | 7.50 | 2.95 | 6.00 | 57 | 3439T-2.5X-3.0 | ● | ● | ● |
| 3.50 | 0.50 | 3.50 | 8.75 | 3.45 | 6.00 | 57 | 3439T-2.5X-3.5 | ● | ● | ● |
| 4.00 | 0.50 | 4.00 | 10.00 | 3.95 | 6.00 | 57 | 3439T-2.5X-4.0 | ● | ● | ● |
| 4.50 | 0.50 | 4.50 | 11.25 | 4.45 | 6.00 | 57 | 3439T-2.5X-4.5 | ● | ● | ● |
| 5.00 | 0.50 | 5.00 | 12.50 | 4.95 | 6.00 | 57 | 3439T-2.5X-5.0 | ● | ● | ● |
| 5.50 | 0.50 | 5.50 | 13.75 | 5.45 | 6.00 | 57 | 3439T-2.5X-5.5 | ● | ● | ● |
| 6.00 | 0.50 | 6.00 | 15.00 | 5.95 | 6.00 | 57 | 3439T-2.5X-6.0 | ● | ● | ● |






MD VHM HM | λ 30° | Radius Corner | L3 4xD1 | Z=4

| D1 h10 | R +/- 0.02 | L2 | L3 | D3 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|---|---|
| 3.00 | 0.50 | 3.00 | 12.00 | 2.95 | 6.00 | 57 | 3439T-4X-3.0 | ● | ● | ● |
| 3.50 | 0.50 | 3.50 | 14.00 | 3.45 | 6.00 | 57 | 3439T-4X-3.5 | ● | ● | ● |
| 4.00 | 0.50 | 4.00 | 16.00 | 3.95 | 6.00 | 57 | 3439T-4X-4.0 | ● | ● | ● |
| 4.50 | 0.50 | 4.50 | 18.00 | 4.45 | 6.00 | 57 | 3439T-4X-4.5 | ● | ● | ● |
| 5.00 | 0.50 | 5.00 | 20.00 | 4.95 | 6.00 | 57 | 3439T-4X-5.0 | ● | ● | ● |
| 5.50 | 0.50 | 5.50 | 22.00 | 5.45 | 6.00 | 57 | 3439T-4X-5.5 | ● | ● | ● |
| 6.00 | 0.50 | 6.00 | 24.00 | 5.95 | 6.00 | 57 | 3439T-4X-6.0 | ● | ● | ● |




MD
VHM
HM

λ 45°

Sharp Corner

1.5xD1

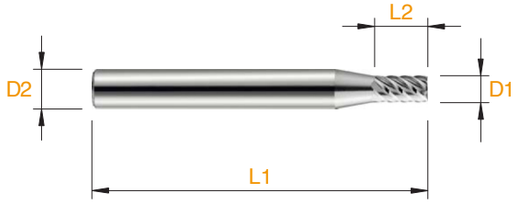
Z=5

| D1 h10 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 1.00 | 1.50 | 6.00 | 50 | 3545-1.0 | ● | ● | ● |
| 2.00 | 3.00 | 6.00 | 50 | 3545-2.0 | ● | ● | ● |
| 3.00 | 4.50 | 6.00 | 50 | 3545-3.0 | ● | ● | ● |
| 4.00 | 6.00 | 6.00 | 50 | 3545-4.0 | ● | ● | ● |
| 5.00 | 7.50 | 6.00 | 50 | 3545-5.0 | ● | ● | ● |
| 6.00 | 9.00 | 6.00 | 50 | 3545-6.0 | ● | ● | ● |



Zurück zum Kapitelanfang






MD
VHM
HM

λ 45°

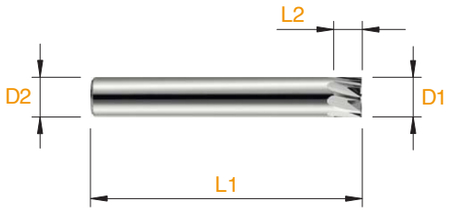
Sharp Corner

Z=4
Z=5
Z=6

| D1 h10 | L2 | Z | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|
| 1.00 | 2.00 | 4 | 6.00 | 50 | 35645-1.0 | ● | ● | ● |
| 1.50 | 3.00 | 5 | 6.00 | 50 | 35645-1.5 | ● | ● | ● |
| 2.00 | 4.00 | 5 | 6.00 | 50 | 35645-2.0 | ● | ● | ● |
| 2.50 | 5.00 | 5 | 6.00 | 50 | 35645-2.5 | ● | ● | ● |
| 3.00 | 6.00 | 5 | 6.00 | 50 | 35645-3.0 | ● | ● | ● |
| 3.50 | 7.00 | 5 | 6.00 | 50 | 35645-3.5 | ● | ● | ● |
| 4.00 | 8.00 | 6 | 6.00 | 50 | 35645-4.0 | ● | ● | ● |
| 4.50 | 9.00 | 6 | 6.00 | 50 | 35645-4.5 | ● | ● | ● |
| 5.00 | 10.00 | 6 | 6.00 | 50 | 35645-5.0 | ● | ● | ● |
| 6.00 | 12.00 | 6 | 6.00 | 50 | 35645-6.0 | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills




MD VHM HM | λ 10° | Sharp Corner | Z=8

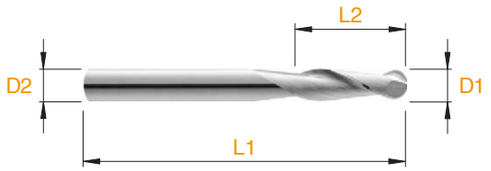
| D1 e9 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 6.00 | 4.00 | 6.00 | 50 | 3810-0.65-6.0 | ● | ● | ● |
| 6.00 | 6.00 | 6.00 | 57 | 3810-1.0-6.0 | ● | ● | ● |
| 6.00 | 9.00 | 6.00 | 57 | 3810-1.5-6.0 | ● | ● | ● |



Zurück zum Kapitelanfang



Fraises en bout hémisphériques
Vollradius Schaftfräser
Ball nose end mills



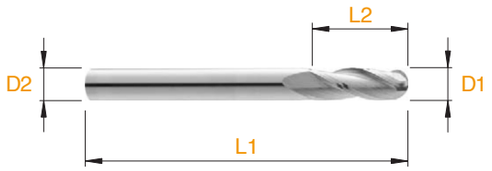

MD VHM HM | λ 30° | Z=2

| D1 e9 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 2.00 | 8.00 | 2.00 | 32 | 3238-2.0 | ● | ● | ● |
| 2.50 | 8.00 | 2.50 | 32 | 3238-2.5 | ● | ● | ● |
| 3.00 | 12.00 | 3.00 | 32 | 3238-3.0 | ● | ● | ● |
| 3.50 | 12.00 | 3.50 | 32 | 3238-3.5 | ● | ● | ● |
| 4.00 | 12.00 | 4.00 | 40 | 3238-4.0 | ● | ● | ● |
| 4.50 | 14.00 | 4.50 | 50 | 3238-4.5 | ● | ● | ● |
| 5.00 | 14.00 | 5.00 | 50 | 3238-5.0 | ● | ● | ● |
| 6.00 | 16.00 | 6.00 | 50 | 3238-6.0 | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request

3338

Fraises en bout hémisphériques
Vollradius Schaftfräser
Ball nose end mills




MD
VHM
HM
λ 30°
Z=3

| D1 e9 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 2.00 | 8.00 | 2.00 | 32 | 3338-2.0 | ● | ● | ● |
| 2.50 | 8.00 | 2.50 | 32 | 3338-2.5 | ● | ● | ● |
| 3.00 | 12.00 | 3.00 | 32 | 3338-3.0 | ● | ● | ● |
| 3.50 | 12.00 | 3.50 | 32 | 3338-3.5 | ● | ● | ● |
| 4.00 | 12.00 | 4.00 | 40 | 3338-4.0 | ● | ● | ● |
| 4.50 | 14.00 | 4.50 | 50 | 3338-4.5 | ● | ● | ● |
| 5.00 | 14.00 | 5.00 | 50 | 3338-5.0 | ● | ● | ● |
| 6.00 | 16.00 | 6.00 | 50 | 3338-6.0 | ● | ● | ● |

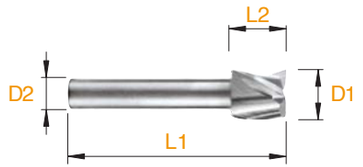


Zurück zum Kapitelanfang



3383

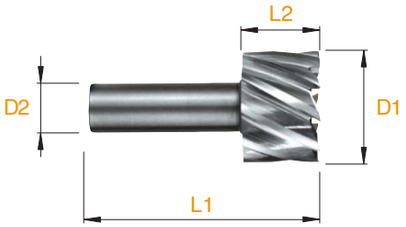
Fraises en bout pour usinage en bout plat
Schaftfräser für flache Frontbearbeitung
End mills for flat front machining




MD
VHM
HM
λ 30°
Sharp Corner
Z=3

| D1 h10 | L2 | D2 h6 | L1 | Art. N° | N |
|---|---|---|---|---|---|
| 8.00 | 8.00 | 6.00 | 40 | 3383-8.0 | ● |
| 10.00 | 10.00 | 6.00 | 40 | 3383-10.0 | ● |
| 12.00 | 12.00 | 6.00 | 40 | 3383-12.0 | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request




MD VHM HM | λ 30° | Sharp Corner | Z=10

| D1 h10 | L2 | D2 h6 | L1 | Art. N° | N |
|---|---|---|---|---|---|
| 16.30 | 15.00 | 10.00 | 45 | 3831 | ● |
| 20.30 | 15.00 | 10.00 | 45 | 3833 | ● |




MD VHM HM | λ 0° | Z=3 | 60°

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | d | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|
| 0.50 | 3.00 | 3.00 | 39 | 0.10 | 3611-0.5 | ● | ● | ● |
| 0.60 | 3.00 | 3.00 | 39 | 0.10 | 3611-0.6 | ● | ● | ● |
| 0.70 | 3.00 | 3.00 | 39 | 0.10 | 3611-0.7 | ● | ● | ● |
| 0.80 | 3.00 | 3.00 | 39 | 0.10 | 3611-0.8 | ● | ● | ● |
| 0.90 | 3.00 | 3.00 | 39 | 0.10 | 3611-0.9 | ● | ● | ● |
| 1.00 | 3.00 | 3.00 | 39 | 0.10 | 3611-1.0 | ● | ● | ● |
| 1.50 | 4.50 | 3.00 | 39 | 0.10 | 3611-1.5 | ● | ● | ● |
| 2.00 | 6.00 | 3.00 | 39 | 0.10 | 3611-2.0 | ● | ● | ● |
| 2.50 | 7.50 | 3.00 | 39 | 0.10 | 3611-2.5 | ● | ● | ● |
| 3.00 | - | 3.00 | 39 | 0.10 | 3611-3.0 | ● | ● | ● |

Fraises à angler
Kegelsenker
Chamfering tools












MD VHM HM | λ 0° | Z=3 | 90°

| D1 +0.010/ -0.010 | L2 | D2 h4 | L1 | d | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|---|
| 0.30 | 2.00 | 3.00 | 39 | 0.05 | 3911-0.30 | ● | ● | ● |
| 0.40 | 2.00 | 3.00 | 39 | 0.05 | 3911-0.40 | ● | ● | ● |
| 0.50 | 3.00 | 3.00 | 39 | 0.10 | 3911-0.50 | ● | ● | ● |
| 0.60 | 3.00 | 3.00 | 39 | 0.10 | 3911-0.60 | ● | ● | ● |
| 0.70 | 3.00 | 3.00 | 39 | 0.10 | 3911-0.70 | ● | ● | ● |
| 0.80 | 3.00 | 3.00 | 39 | 0.10 | 3911-0.80 | ● | ● | ● |
| 0.90 | 3.00 | 3.00 | 39 | 0.10 | 3911-0.90 | ● | ● | ● |
| 1.00 | 3.00 | 3.00 | 39 | 0.10 | 3911-1.00 | ● | ● | ● |
| 1.10 | 3.00 | 3.00 | 39 | 0.10 | 3911-1.10 | ● | ● | ● |
| 1.20 | 3.00 | 3.00 | 39 | 0.10 | 3911-1.20 | ● | ● | ● |
| 1.30 | 3.00 | 3.00 | 39 | 0.10 | 3911-1.30 | ● | ● | ● |
| 1.40 | 3.00 | 3.00 | 39 | 0.10 | 3911-1.40 | ● | ● | ● |
| 1.50 | 4.50 | 3.00 | 39 | 0.10 | 3911-1.50 | ● | ● | ● |
| 2.00 | 6.00 | 3.00 | 39 | 0.10 | 3911-2.00 | ● | ● | ● |
| 2.50 | 7.50 | 3.00 | 39 | 0.10 | 3911-2.50 | ● | ● | ● |
| 3.00 | - | 3.00 | 39 | 0.10 | 3911-3.00 | ● | ● | ● |

MD VHM HM | λ 0° | Z=4 | 90°

| | | | L | | R | | | |
|---|---|---|---|---|---|---|---|---|
| D2 Ø3 h4 Ø6 h5 Ø8 h6 | d | L1 | Art. N° | N | Art. N° | N | TiAlN | STF |
| 3.00 | 0.30 | 39 | 1901-3.0 | ● | 3901-3.0 | ● | ● | ● |
| 6.00 | 0.70 | 50 | 1901-6.0 | ● | 3901-6.0 | ● | ● | ● |
| 8.00 | 1.20 | 59 | 1901-8.0 | ● | 3901-8.0 | ● | ● | ● |

MICRO-Line

Fraises pour machine WM 701S
Werkzeuge für Maschine WM 701S
Executions for machine WM 701S

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

> 16.98

| Z | λ | D1 | D2 | Type | Corner | page |
|---|---|---|---|---|---|---|
| | | | Ø6 h4 | 701SE330-P | | > 16.99 |
| | | | Ø6 h4 | 701SE330-R | | > 16.100 |
| Z=1 | 0° | Ø0.50 -3.00 | Ø6 h4 | 701S3170R-2 | Sharp Corner | > 16.101 |
| Z=2 | 0° | Ø0.30 -3.00 | Ø6 h4 | 701S3279T-3X | U | > 16.102 |
| Z=3 | | Ø0.30 - 3.50 | Ø6 h5 | 701S3371-1 | Sharp Corner | > 16.103 |
| | | Ø0.30 - 3.00 | Ø6 h5 | 701S3371-2 | | > 16.104 |
| | | Ø0.30 - 2.50 | Ø6 h5 | 701S3371-3 | | > 16.105 |
| Z=3 | 30° | Ø1.00 -2.00 | Ø6 h4 | 701S3379T-3X | U | > 16.106 |
| Z=3 | 0° | Ø0.40 -2.00 | Ø6 h4 | 701S3911 | | > 16.107 |



Tous les outils de la gamme MICRO-Line sont réalisables pour la machine WM 701S sur demande.

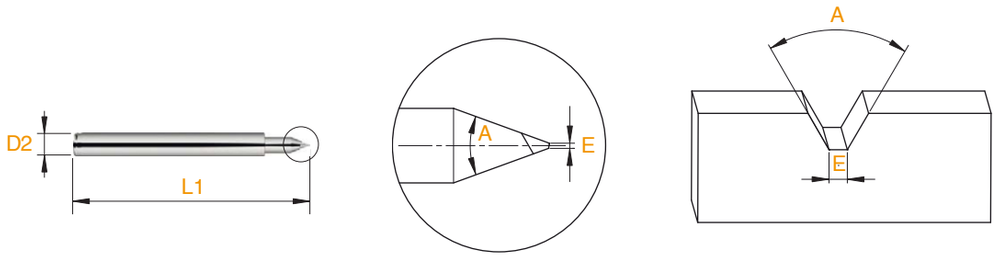
Alle Werkzeuge aus der MICRO-Line sind machbar für die Maschine WM 701S auf Anfrage.

All tools of MICRO-Line can be produced for the machine WM 701S on request.

| Matière / Werkstoff / Material | | VC (m/min) | N | TiAlN | STF | DLC |
|---|---|---|---|---|---|---|
| Acier de décolletage / Automatenstahl / Free-cutting steel | P | 120 - 180 | - | ★★★ | ★★★ | - |
| Acier / Stahl / Steel <600 N/mm² | P | 100 - 150 | - | ★★★ | ★★★ | - |
| Acier / Stahl / Steel <800 N/mm² | P | 100 - 130 | - | ★★★ | ★★★ | - |
| Acier / Stahl / Steel >800 N/mm² | P | 80 - 100 | - | ★★★ | ★★★ | - |
| Acier trempé / Gehärteter Stahl -55HRC / Hardened steel | H | - | - | ★★★ | ★★★ | - |
| Acier trempé / Gehärteter Stahl +55HRC / Hardened steel | H | - | - | ★★★ | ★★★ | - |
| Inox / Rostfreistahl / Stainless steel | M | 60 - 90 | - | ★★★ | ★★★ | - |
| Aluminium | N | 250 - 400 | ★★ | ★★★ | ★★★ | ★★★ |
| Cuivre, laiton, bronze / Kupfer, Messing, Bronze / Copper, brass, bronze | N | 150 - 200 | ★★★ | ★★ | ★★ | ★★★ |
| Matière synthétique / Synthetisches Material / Synthetic material | N | 100 - 150 | ★★★ | ★★ | ★★ | ★★★ |
| Métaux précieux / Edelmetalle / Precious metals | N | 140 - 200 | ★★★ | ★★ | ★★ | ★★★ |
| Titane / Titan / Titanium | S | 40 - 70 | - | ★★★ | ★★★ | - |
| Alliage de nickel / Nickel-Legierung / Nickel alloy | S | 30 - 60 | - | ★★★ | ★★★ | - |
| Matière exotique / Exotisches material / Exotic material | O | 30 - 60 | - | ★★★ | ★★★ | ★★★ |

Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Datenum 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Verygood
★★★ Excellent / Ausgezeichnet / Excellent



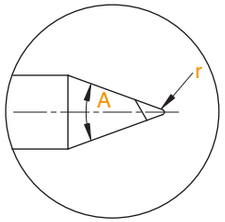

MD
VHM
HM

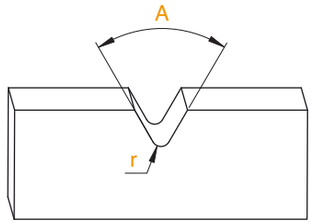
| A | E | D2 h4 | L1 | Art. N° | N | TiAlN | STF | DLC |
|---|---|---|---|---|---|---|---|---|
| 30° | 0.02-0.10* / 0.10-0.30** | 6.00 | 33 | 701SE330-P-_(E) | ● | ● | ● | ● |
| 35° | 0.02-0.10* / 0.10-0.30** | 6.00 | 33 | 701SE335-P-_(E) | ● | ● | ● | ● |
| 40° | 0.02-0.10* / 0.10-0.30** | 6.00 | 33 | 701SE340-P-_(E) | ● | ● | ● | ● |
| 50° | 0.02-0.10* / 0.10-0.30** | 6.00 | 33 | 701SE350-P-_(E) | ● | ● | ● | ● |
| 60° | 0.02-0.10* / 0.10-0.30** | 6.00 | 33 | 701SE360-P-_(E) | ● | ● | ● | ● |

* tous les 0.01mm / alle 0.01mm / every0.01 mm

** tous les 0.05mm / alle 0.05mm / every0.05 mm



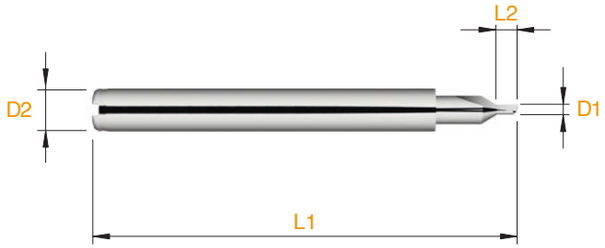

MD
VHM
HM

| A | r | D2 h4 | L1 | Art. N° | N | TiAlN | STF | DLC |
|---|---|---|---|---|---|---|---|---|
| 30° | 0.04-0.10* / 0.10-0.30** | 6.00 | 33 | 701SE330-R-_(r) | ● | ● | ● | ● |
| 35° | 0.04-0.10* / 0.10-0.30** | 6.00 | 33 | 701SE335-R-_(r) | ● | ● | ● | ● |
| 40° | 0.04-0.10* / 0.10-0.30** | 6.00 | 33 | 701SE340-R-_(r) | ● | ● | ● | ● |
| 50° | 0.04-0.10* / 0.10-0.30** | 6.00 | 33 | 701SE350-R-_(r) | ● | ● | ● | ● |
| 60° | 0.04-0.10* / 0.10-0.30** | 6.00 | 33 | 701SE360-R-_(r) | ● | ● | ● | ● |

* tous les 0.01mm
alle 0.01mm
every0.01 mm

** tous les 0.05mm
alle 0.05mm
every0.05 mm






MD
VHM
HM

λ 0°

Sharp
Corner

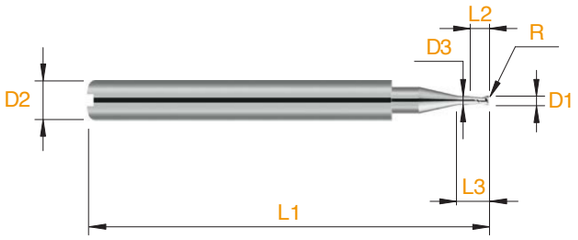
2xD1

Z=1

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | DLC |
|---|---|---|---|---|---|---|---|---|
| 0.50 | 1.00 | 6.00 | 33 | 701S3170R-2-0.50 | ● | ● | ● | ● |
| 1.00 | 2.00 | 6.00 | 33 | 701S3170R-2-1.00 | ● | ● | ● | ● |
| 1.50 | 3.00 | 6.00 | 33 | 701S3170R-2-1.50 | ● | ● | ● | ● |
| 2.00 | 4.00 | 6.00 | 33 | 701S3170R-2-2.00 | ● | ● | ● | ● |
| 2.50 | 5.00 | 6.00 | 33 | 701S3170R-2-2.50 | ● | ● | ● | ● |
| 3.00 | 6.00 | 6.00 | 33 | 701S3170R-2-3.00 | ● | ● | ● | ● |

# 701S3279T-3X

Fraises en bout toriques - WM 701S
Torische Schaftfräser - WM 701S
Toric end mills - WM 701S




MD VHM HM | Radius Corner | L3 3xD1 | Z=2

| D1 +0.005/ -0.010 | R +/- 0.02 | L2 | L3 | D3 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.05 | 0.30 | 0.90 | 0.27 | 6.00 | 33 | 701S3279T-3X-0.30 | ● | ● | ● | ● |
| 0.40 | 0.05 | 0.40 | 1.20 | 0.45 | 6.00 | 33 | 701S3279T-3X-0.40 | ● | ● | ● | ● |
| 0.50 | 0.05 | 0.50 | 1.50 | 0.45 | 6.00 | 33 | 701S3279T-3X-0.50 | ● | ● | ● | ● |
| 0.60 | 0.05 | 0.60 | 1.80 | 0.55 | 6.00 | 33 | 701S3279T-3X-0.60 | ● | ● | ● | ● |
| 0.80 | 0.05 | 0.80 | 2.40 | 0.75 | 6.00 | 33 | 701S3279T-3X-0.80 | ● | ● | ● | ● |
| 1.00 | 0.10 | 1.00 | 3.00 | 0.95 | 6.00 | 33 | 701S3279T-3X-1.00 | ● | ● | ● | ● |
| 1.20 | 0.10 | 1.20 | 3.60 | 1.15 | 6.00 | 33 | 701S3279T-3X-1.20 | ● | ● | ● | ● |
| 1.50 | 0.20 | 1.50 | 4.50 | 1.45 | 6.00 | 33 | 701S3279T-3X-1.50 | ● | ● | ● | ● |
| 1.80 | 0.20 | 1.80 | 5.40 | 1.75 | 6.00 | 33 | 701S3279T-3X-1.80 | ● | ● | ● | ● |
| 2.00 | 0.20 | 2.00 | 6.00 | 1.95 | 6.00 | 33 | 701S3279T-3X-2.00 | ● | ● | ● | ● |
| 2.50 | 0.20 | 2.50 | 7.50 | 2.45 | 6.00 | 33 | 701S3279T-3X-2.50 | ● | ● | ● | ● |
| 3.00 | 0.20 | 3.00 | 9.00 | 2.95 | 6.00 | 33 | 701S3279T-3X-3.00 | ● | ● | ● | ● |

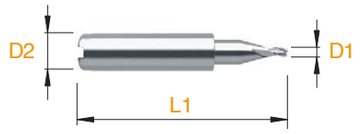


Zurück zum Kapitelanfang



# 701S3371-1

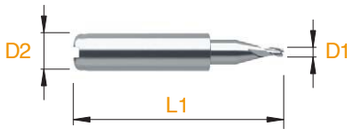
Fraises en bout - WM 701S
Schaftfräser - WM 701S
End mills - WM 701S




MD VHM HM | λ 36° ↓ 38° | Sharp Corner | 1xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.30 | 6.00 | 33 | 701S3371-1-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.40 | 6.00 | 33 | 701S3371-1-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 0.50 | 6.00 | 33 | 701S3371-1-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 0.60 | 6.00 | 33 | 701S3371-1-0.60 | ● | ● | ● | ● | ● |
| 0.80 | 0.80 | 6.00 | 33 | 701S3371-1-0.80 | ● | ● | ● | ● | ● |
| 1.00 | 1.00 | 6.00 | 33 | 701S3371-1-1.00 | ● | ● | ● | ● | ● |
| 1.20 | 1.20 | 6.00 | 33 | 701S3371-1-1.20 | ● | ● | ● | ● | ● |
| 1.50 | 1.50 | 6.00 | 33 | 701S3371-1-1.50 | ● | ● | ● | ● | ● |
| 1.80 | 1.80 | 6.00 | 33 | 701S3371-1-1.80 | ● | ● | ● | ● | ● |
| 2.00 | 2.00 | 6.00 | 33 | 701S3371-1-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 2.50 | 6.00 | 33 | 701S3371-1-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 3.00 | 6.00 | 33 | 701S3371-1-3.00 | ● | ● | ● | ● | ● |
| 3.20 | 3.20 | 6.00 | 33 | 701S3371-1-3.20 | ● | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request



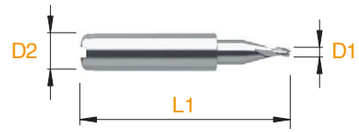

MD VHM HM | λ 36° ↓ 38° | Sharp Corner | 2xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.60 | 6.00 | 33 | 701S3371-2-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 0.80 | 6.00 | 33 | 701S3371-2-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.00 | 6.00 | 33 | 701S3371-2-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.20 | 6.00 | 33 | 701S3371-2-0.60 | ● | ● | ● | ● | ● |
| 0.80 | 1.60 | 6.00 | 33 | 701S3371-2-0.80 | ● | ● | ● | ● | ● |
| 1.00 | 2.00 | 6.00 | 33 | 701S3371-2-1.00 | ● | ● | ● | ● | ● |
| 1.20 | 2.40 | 6.00 | 33 | 701S3371-2-1.20 | ● | ● | ● | ● | ● |
| 1.50 | 3.00 | 6.00 | 33 | 701S3371-2-1.50 | ● | ● | ● | ● | ● |
| 1.80 | 3.60 | 6.00 | 33 | 701S3371-2-1.80 | ● | ● | ● | ● | ● |
| 2.00 | 4.00 | 6.00 | 33 | 701S3371-2-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 5.00 | 6.00 | 33 | 701S3371-2-2.50 | ● | ● | ● | ● | ● |
| 3.00 | 6.00 | 6.00 | 33 | 701S3371-2-3.00 | ● | ● | ● | ● | ● |



Zurück zum Kapitelanfang

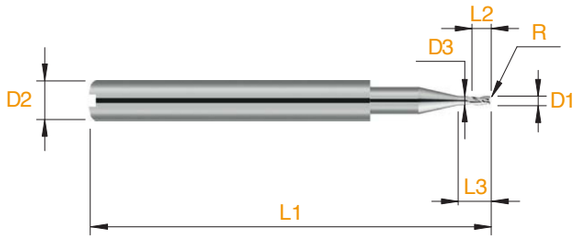





MD VHM HM | λ 36° ↓ 38° | Sharp Corner | 3xD1 | Z=3

| D1 +0.005/ -0.010 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.30 | 0.90 | 6.00 | 33 | 701S3371-3-0.30 | ● | ● | ● | ● | ● |
| 0.40 | 1.20 | 6.00 | 33 | 701S3371-3-0.40 | ● | ● | ● | ● | ● |
| 0.50 | 1.50 | 6.00 | 33 | 701S3371-3-0.50 | ● | ● | ● | ● | ● |
| 0.60 | 1.80 | 6.00 | 33 | 701S3371-3-0.60 | ● | ● | ● | ● | ● |
| 0.80 | 2.40 | 6.00 | 33 | 701S3371-3-0.80 | ● | ● | ● | ● | ● |
| 1.00 | 3.00 | 6.00 | 33 | 701S3371-3-1.00 | ● | ● | ● | ● | ● |
| 1.20 | 3.60 | 6.00 | 33 | 701S3371-3-1.20 | ● | ● | ● | ● | ● |
| 1.50 | 4.50 | 6.00 | 33 | 701S3371-3-1.50 | ● | ● | ● | ● | ● |
| 1.80 | 5.40 | 6.00 | 33 | 701S3371-3-1.80 | ● | ● | ● | ● | ● |
| 2.00 | 6.00 | 6.00 | 33 | 701S3371-3-2.00 | ● | ● | ● | ● | ● |
| 2.50 | 7.50 | 6.00 | 33 | 701S3371-3-2.50 | ● | ● | ● | ● | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request




MD VHM HM | λ 30° | Radius Corner | L3 3xD1 | Z=3

| D1 +0.005/ -0.010 | R +/- 0.02 | L2 | L3 | D3 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.00 | 0.10 | 2.00 | 3.00 | 0.95 | 6.00 | 33 | 701S3379T-3X-1.00 | ● | ● | ● | ● |
| 1.50 | 0.20 | 3.00 | 4.50 | 1.45 | 6.00 | 33 | 701S3379T-3X-1.50 | ● | ● | ● | ● |
| 2.00 | 0.20 | 4.00 | 6.00 | 1.95 | 6.00 | 33 | 701S3379T-3X-2.00 | ● | ● | ● | ● |






MD VHM HM | λ 0° | Z=3 | 90°

| D1 +0.010/ -0.010 | L2 | D2 h4 | L1 | d +/- 0.02 | Art. N° | N | TiAlN | STF | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 0.40 | 2.00 | 6.00 | 33 | 0.05 | 701S3911-0.40 | ● | ● | ● | ● |
| 0.50 | 2.50 | 6.00 | 33 | 0.05 | 701S3911-0.50 | ● | ● | ● | ● |
| 0.60 | 2.50 | 6.00 | 33 | 0.05 | 701S3911-0.60 | ● | ● | ● | ● |
| 1.00 | 3.00 | 6.00 | 33 | 0.05 | 701S3911-1.00 | ● | ● | ● | ● |
| 1.50 | 4.50 | 6.00 | 33 | 0.05 | 701S3911-1.50 | ● | ● | ● | ● |
| 2.00 | 4.50 | 6.00 | 33 | 0.05 | 701S3911-2.00 | ● | ● | ● | ● |

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

> 16.109

| A | Plat [E] / Rayon [r]<br>Fläche [E] / Radius [r]<br>Flat [E] / Radius [r] | D2 | Type | Page |
|---|---|---|---|---|
| 20° / 30° / 35° / 40°<br>45° / 50° / 55° / 60°<br>65° / 70° / 90° / 120° | 0.05-0.30<br>0.05-0.10 / every 0.01<br>0.10-0.30 / every 0.05 | Ø3 h4<br>Ø6 h5 | E100-P | > 16.110 |
| 20° / 30° / 35° / 40°<br>45° / 50° / 55° / 60°<br>65° / 70° / 90° | 0.02-0.30<br>0.02-0.10 / every 0.01<br>0.10-0.30 / every 0.05 | Ø3 h4 | E300-P | > 16.111 |
| 20° / 30° / 35° / 40°<br>45° / 50° / 55° / 60°<br>65° / 70° / 90° | 0.04-0.30<br>0.04-0.10 / every 0.01<br>0.10-0.30 / every 0.05 | Ø3 h4 | E300-R | > 16.112 |
| 20° / 30° / 35° / 40°<br>45° / 50° / 55° / 60°<br>65° / 70° / 90° | 0.04-0.30<br>0.04-0.10 / every 0.01<br>0.10-0.30 / every 0.05 | Ø3 h4 | E900-P | > 16.113 |
| 20° / 30° / 35° / 40°<br>45° / 50° / 55° / 60°<br>65° / 70° / 90° | 0.04-0.30<br>0.04-0.10 / every 0.01<br>0.10-0.30 / every 0.05 | Ø3 h4 | E900-R | > 16.114 |



Zurück zum Kapitelanfang



Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

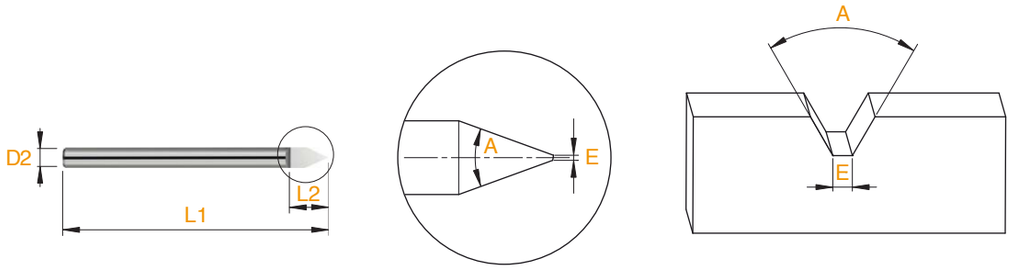
| Matière<br>Werkstoff<br>Material | n<br>(tr/min) | Vf<br>(mm/min) | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel (P) | 20 - 50'000 | 100 - 180 | - | ★★★ | ★★★ | ★★ | - |
| Acier<br>Stahl < 600 N/mm² (P)<br>Steel | 20 - 50'000 | 100 - 180 | - | ★★★ | ★★★ | ★★ | - |
| Acier<br>Stahl < 800 N/mm² (P)<br>Steel | 20 - 50'000 | 100 - 180 | - | ★★★ | ★★★ | ★★ | - |
| Acier<br>Stahl > 800 N/mm² (P)<br>Steel | 20 - 50'000 | 100 - 150 | - | ★★★ | ★★★ | ★★ | - |
| Acier trempé<br>Gehärteter Stahl -55HRC (H)<br>Hardened steel | 20 - 50'000 | - | - | ★★★ | ★★★ | ★ | - |
| Acier trempé<br>Gehärteter Stahl +55HRC (H)<br>Hardened steel | 20 - 50'00 | - | - | ★★★ | ★★★ | ★ | - |
| Inox<br>Rostfreistahl (M)<br>Stainless steel | 20 - 50'000 | 100 - 170 | - | ★★★ | ★★★ | ★★ | - |
| Aluminium (N) | 20 - 50'000 | 100 - 250 | ★★★ | ★★ | ★★ | ★ | ★★★ |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze (N)<br>Copper, brass, bronze | 20 - 50'000 | 70 - 150 | ★★★ | ★★ | ★★ | ★★ | ★★★ |
| Matière synthétique<br>Synthetisches Material (N)<br>Synthetic material | 20 - 50'000 | 100 - 200 | ★★★ | ★★ | ★★ | ★★ | ★★★ |
| Métaux précieux<br>Edelmetalle (N)<br>Precious metals | 20 - 50'000 | 100 - 200 | ★★★ | ★★ | ★★ | ★★ | ★★★ |
| Titane<br>Titan (S)<br>Titanium | 20 - 50'000 | 70 - 150 | - | ★★★ | ★★★ | ★★ | - |
| Alliage de nickel<br>Nickel-Legierung (S)<br>Nickel alloy | 20 - 50'000 | 80 - 180 | - | ★★★ | ★★★ | ★★ | - |
| Matière exotique<br>Exotisches material (O)<br>Exotic material | 20 - 50'000 | 80 - 180 | ★ | ★★★ | ★★★ | ★★ | ★★★ |

Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Datenum 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Verygood
★★★ Excellent / Ausgezeichnet / Excellent

# E100-P

Fraises à graver avec plat
Gravierfräser mit Fläche
Engraving mills with flat




MD
VHM
HM

| A | E | L2 | D2 h4 Ø3.0 h5 Ø6.0 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|
| 20° | 0.05-0.10* / 0.10-0.30** | 5.20 | 3.00 | 33 | E120-P-_(E) | ● | ● | ● | ● | ● |
| 30° | 0.05-0.10* / 0.10-0.30** | 5.20 | 3.00 | 33 | E130-P-_(E) | ● | ● | ● | ● | ● |
| 35° | 0.05-0.10* / 0.10-0.30** | 5.20 | 3.00 | 33 | E135P-_(E) | ● | ● | ● | ● | ● |
| 40° | 0.05-0.10* / 0.10-0.30** | 6.00 | 3.00 | 33 | E140-P-_(E) | ● | ● | ● | ● | ● |
| 45° | 0.05-0.10* / 0.10-0.30** | 6.00 | 3.00 | 33 | E145-P-_(E) | ● | ● | ● | ● | ● |
| 50° | 0.05-0.10* / 0.10-0.30** | 6.00 | 3.00 | 33 | E150-P-_(E) | ● | ● | ● | ● | ● |
| 55° | 0.05-0.10* / 0.10-0.30** | 6.00 | 3.00 | 33 | E155-P-_(E) | ● | ● | ● | ● | ● |
| 60° | 0.05-0.10* / 0.10-0.30** | 8.00 | 3.00 | 33 | E160-P-_(E) | ● | ● | ● | ● | ● |
| 65° | 0.05-0.10* / 0.10-0.30** | 8.00 | 3.00 | 33 | E165-P-_(E) | ● | ● | ● | ● | ● |
| 70° | 0.05-0.10* / 0.10-0.30** | 8.00 | 3.00 | 33 | E170-P-_(E) | ● | ● | ● | ● | ● |
| 90° | 0.05-0.10* / 0.10-0.30** | 8.00 | 3.00 | 33 | E190-P-_(E) | ● | ● | ● | ● | ● |
| 120° | 0.05-0.10* / 0.10-0.30** | 8.00 | 3.00 | 33 | E1120-P-_(E) | ● | ● | ● | ● | ● |
| 30° | 0.05-0.10* / 0.10-0.30** | 12.00 | 6.00 | 40 | E130-6-P-_(E) | ● | ● | ● | ● | ● |
| 40° | 0.05-0.10* / 0.10-0.30** | 12.00 | 6.00 | 40 | E140-6-P-_(E) | ● | ● | ● | ● | ● |

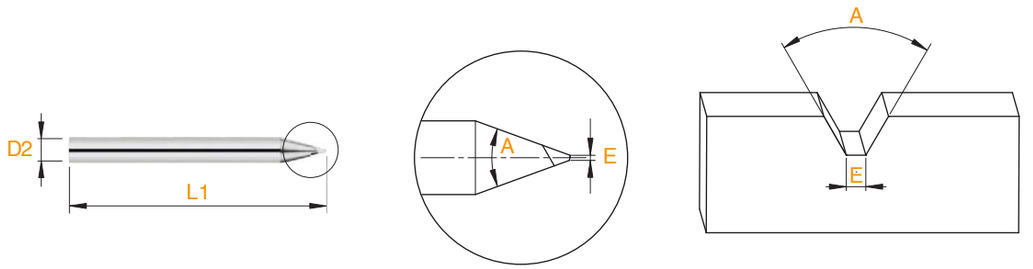
* tous les 0.01mm
alle 0.01mm
every0.01 mm

** tous les 0.05mm
alle 0.05mm
every0.05 mm

MICRO-Line

# E300-P

Fraises à graver avec plat
Gravierfräser mit Fläche
Engraving mills with flat




MD
VHM
HM

| A | E | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 20° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E320-P-_(E) | ● | ● | ● | ● | ● |
| 30° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E330-P-_(E) | ● | ● | ● | ● | ● |
| 35° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E335-P-_(E) | ● | ● | ● | ● | ● |
| 40° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E340-P-_(E) | ● | ● | ● | ● | ● |
| 45° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E345-P-_(E) | ● | ● | ● | ● | ● |
| 50° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E350-P-_(E) | ● | ● | ● | ● | ● |
| 55° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E355-P-_(E) | ● | ● | ● | ● | ● |
| 60° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E360-P-_(E) | ● | ● | ● | ● | ● |
| 65° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E365-P-_(E) | ● | ● | ● | ● | ● |
| 70° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E370-P-_(E) | ● | ● | ● | ● | ● |
| 90° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E390-P-_(E) | ● | ● | ● | ● | ● |

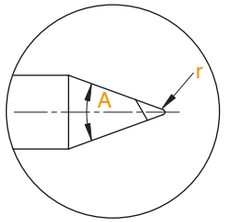
* tous les 0.01mm
alle 0.01mm
every0.01 mm

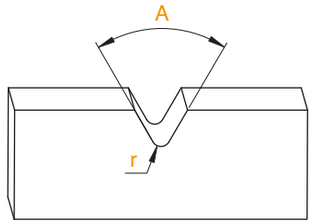
** tous les 0.05mm
alle 0.05mm
every0.05 mm

# E300-R

Fraises à graver à rayon
Gravierfräser mit Radius
Engravingmills with radius




MD
VHM
HM

| A | r | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|
| 20° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E320-R-_(r) | ● | ● | ● | ● | ● |
| 30° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E330-R-_(r) | ● | ● | ● | ● | ● |
| 35° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E335-R-_(r) | ● | ● | ● | ● | ● |
| 40° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E340-R-_(r) | ● | ● | ● | ● | ● |
| 45° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E345-R-_(r) | ● | ● | ● | ● | ● |
| 50° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E350-R-_(r) | ● | ● | ● | ● | ● |
| 55° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E355-R-_(r) | ● | ● | ● | ● | ● |
| 60° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E360-R-_(r) | ● | ● | ● | ● | ● |
| 65° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E365-R-_(r) | ● | ● | ● | ● | ● |
| 70° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E370-R-_(r) | ● | ● | ● | ● | ● |
| 90° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E390-R-_(r) | ● | ● | ● | ● | ● |

* tous les 0.01mm
alle 0.01mm
every0.01 mm

** tous les 0.05mm
alle 0.05mm
every0.05 mm



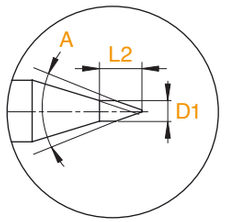
Zurück zum Kapitelanfang

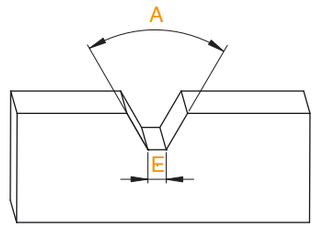


# E900-P

Fraises à graver renforcées
Verstärkte Gravierfräser
Reinforced engraving mills



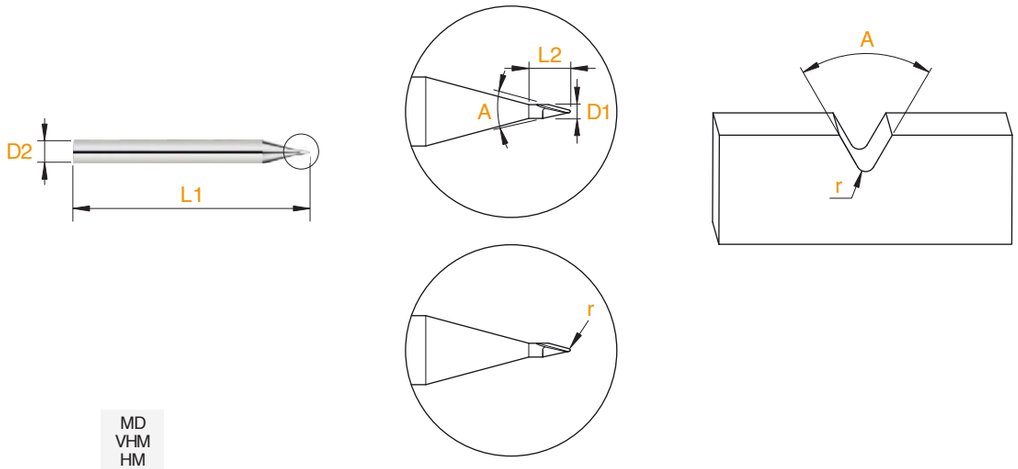




MD
VHM
HM

| A | E | D1 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20° | 0.04-0.10* / 0.10-0.30** | 0.60 | 1.80 | 3.00 | 33 | E920-P-_(E) | ● | ● | ● | ● | ● |
| 30° | 0.04-0.10* / 0.10-0.30** | 0.60 | 1.80 | 3.00 | 33 | E930-P-_(E) | ● | ● | ● | ● | ● |
| 35° | 0.04-0.10* / 0.10-0.30** | 0.60 | 1.80 | 3.00 | 33 | E935-P-_(E) | ● | ● | ● | ● | ● |
| 40° | 0.04-0.10* / 0.10-0.30** | 0.60 | 1.80 | 3.00 | 33 | E940-P-_(E) | ● | ● | ● | ● | ● |
| 45° | 0.04-0.10* / 0.10-0.30** | 1.00 | 1.80 | 3.00 | 33 | E945-P-_(E) | ● | ● | ● | ● | ● |
| 50° | 0.04-0.10* / 0.10-0.30** | 1.00 | 2.00 | 3.00 | 33 | E950-P-_(E) | ● | ● | ● | ● | ● |
| 55° | 0.04-0.10* / 0.10-0.30** | 1.00 | 2.00 | 3.00 | 33 | E955-P-_(E) | ● | ● | ● | ● | ● |
| 60° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00 | 33 | E960-P-_(E) | ● | ● | ● | ● | ● |
| 65° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00 | 33 | E965-P-_(E) | ● | ● | ● | ● | ● |
| 70° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00 | 33 | E970-P-_(E) | ● | ● | ● | ● | ● |
| 90° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00 | 33 | E990-P-_(E) | ● | ● | ● | ● | ● |

* tous les 0.01mm
alle 0.01mm
every0.01 mm

** tous les 0.05mm
alle 0.05mm
every0.05 mm




MD
VHM
HM

| A | r | D1 | L2 | D2 h4 | L1 | Art. N° | N | TiAlN | STF | TiCN | DLC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20° | 0.04-0.10* / 0.10-0.20** | 0.60 | 1.80 | 3.00 | 33 | E920-R-_(E) | ● | ● | ● | ● | ● |
| 30° | 0.04-0.10* / 0.10-0.20** | 0.60 | 1.80 | 3.00 | 33 | E930-R-_(E) | ● | ● | ● | ● | ● |
| 35° | 0.04-0.10* / 0.10-0.20** | 0.60 | 1.80 | 3.00 | 33 | E935-R-_(E) | ● | ● | ● | ● | ● |
| 40° | 0.04-0.10* / 0.10-0.20** | 0.60 | 1.80 | 3.00 | 33 | E940-R-_(E) | ● | ● | ● | ● | ● |
| 45° | 0.04-0.10* / 0.10-0.30** | 1.00 | 1.80 | 3.00 | 33 | E945-R-_(E) | ● | ● | ● | ● | ● |
| 50° | 0.04-0.10* / 0.10-0.30** | 1.00 | 2.00 | 3.00 | 33 | E950-R-_(E) | ● | ● | ● | ● | ● |
| 55° | 0.04-0.10* / 0.10-0.30** | 1.00 | 2.00 | 3.00 | 33 | E955-R-_(E) | ● | ● | ● | ● | ● |
| 60° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00 | 33 | E960-R-_(E) | ● | ● | ● | ● | ● |
| 65° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00 | 33 | E965-R-_(E) | ● | ● | ● | ● | ● |
| 70° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00 | 33 | E970-R-_(E) | ● | ● | ● | ● | ● |
| 90° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00 | 33 | E990-R-_(E) | ● | ● | ● | ● | ● |

* tous les 0.01mm
alle 0.01mm
every0.01 mm

** tous les 0.05mm
alle 0.05mm
every0.05 mm

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data > 16.116

Micro-forets et forets à centrer
Mikrobohrer und Zentrierbohrer
Micro drills and centering drills

| Point angle | λ | L2 | D1 | D2 | Type | Page |
|---|---|---|---|---|---|---|
| 60° | 25° | Div. | Ø2.00 - 6.00 | D1 = D2 | 2680-60 | > 16.118 |
| 90° | 25° | Div. | Ø0.50 - 20.00 | Ø2.0 - 20.0 h5 | 2680-90 | > 16.119 |
| 90° | 25° | Div. | Ø2.00 - 16.00 | D1 = D2 | 1680-90 | > 16.119 |
| 120° | 25° | Div. | Ø0.50 - 20.00 | Ø2.0 - 20.0 h5 | 2680-120 | > 16.120 |
| 120° | 25° | Div. | Ø2.00 - 12.00 | D1 = D2 | 1680-120 | > 16.120 |

Micro-forets de préperçage
Mikro Pilotbohrer
Micro pilot drill

| Z | Point angle | λ | L2 | D1 | D2 | Type | Page |
|---|---|---|---|---|---|---|---|
| Z2 | 90° | 25° - 32° | Div. | Ø0.50 - 3.00 | Ø2 h5<br>Ø3 h4 | 2690 | > 16.121 |
| Z2 | 130° | 30° | ~ 2 x D1 | Ø0.10 - 2.00 | Ø3 h6 | 2020 | > 16.126 |

Micro-forets avec affûtage à facettes
Mikrobohrer mit Facettenschliff
Micro drills with faceted drill point

| Z | Point angle | λ | L2 | D1 | D2 | Type | Page |
|---|---|---|---|---|---|---|---|
| Z2 | 118° | 25° | ~ 5-10 x D1 | Ø0.50 - 6.00 | D1 = D2 | 1010 | > 16.122 |
| Z2 | 118° | 25°/35° | ~ 5-10 x D1 | Ø0.50 - 6.00 | D1 = D2 | 2010 | > 16.123 |
| Z2 | 120° | 30° | ~ 2 x D1 | Ø0.80 - 2.00 | Ø2 h6 | 2011 | > 16.124 |
| Z2 | 120° | 24° | ~ 3 x D1 | Ø0.50 - 2.40 | Ø1.5 - 3.0 h6 | 2012 | > 16.124 |
| Z2 | 120° | 35° | ~ 8 x D1 | Ø0.40 - 1.90 | Ø1.0 - 2.0 h6 | 2013 | > 16.125 |
| Z2 | 120° | 30° | ~ 12 x D1 | Ø0.50 - 1.95 | Ø1.5 - 2.0 h6 | 2014 | > 16.125 |
| Z2 | 130° | 35° | 6 x D1 | Ø0.10 - 3.00 | Ø3 h6 | 2023 | > 16.128 |
| Z2 | 130° | 35° | 12 x D1 | Ø0.20 - 2.00 | Ø3 h6 | 2026 | > 16.131 |
| Z3 | 140° | 35° | 5 x D1 | Ø0.20 - 2.99 | Ø3 h6 | 2030 | > 16.133 |



Andere Beschichtung auf Anfrage / Autre revêtement sur demande / Other coating on request

| Matière<br>Werkstoff<br>Material | VC<br>(m/min) | f<br>(mm) | N | TiAlN | STF |
|---|---|---|---|---|---|
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel (P) | 60 | D1/55 | ★★ | ★★★ | ★★★ |
| Acier<br>Stahl<br>Steel <600 N/mm² (P) | 55 | D1/55 | ★★ | ★★★ | ★★★ |
| Acier<br>Stahl<br>Steel <800 N/mm² (P) | 55 | D1/55 | ★★ | ★★★ | ★★★ |
| Acier<br>Stahl<br>Steel >800 N/mm² (P) | 55 | D1/55 | ★★ | ★★★ | ★★★ |
| Acier trempé<br>Gehärteter Stahl -55HRC (H)<br>Hardened steel | 10 | D1/100 | - | ★★★ | ★★★ |
| Acier trempé<br>Gehärteter Stahl +55HRC (H)<br>Hardened steel | - | - | - | - | - |
| Inox<br>Rostfreistahl (M)<br>Stainless steel | 30 | D1/85 | ★★ | ★★★ | ★★★ |
| Aluminium (N) | 100 - 180 | D1/50 | ★★★ | ★★ | ★★ |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze (N)<br>Copper, brass, bronze | 60 - 90 | D1/60 | ★★★ | ★★ | ★★ |
| Matière synthétique<br>Synthetisches Material (N)<br>Synthetic material | 350 - 700 | D1/60 | ★★★ | ★★ | ★★ |
| Métaux précieux<br>Edelmetalle (N)<br>Precious metals | 50 - 80 | D1/100 | ★★★ | ★★ | ★★ |
| Titane<br>Titan (S)<br>Titanium | 30 | D1/115 | ★★ | ★★★ | ★★★ |
| Alliage de nickel<br>Nickel-Legierung (S)<br>Nickel alloy | 15 - 20 | D1/120 | ★★ | ★★★ | ★★★ |
| Matière exotique<br>Exotisches material (O)<br>Exotic material | 10 | D1/100 | ★★ | ★★★ | ★★★ |

Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Datenum 20-30%erhöhen
With coating, increase data by20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Verygood
★★★ Excellent / Ausgezeichnet / Excellent

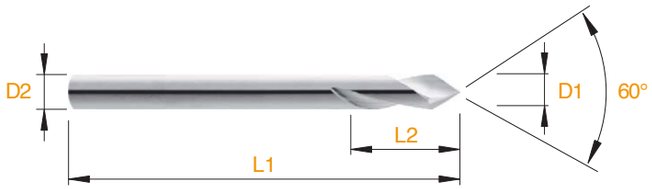


Zurück zum Kapitelanfang



| Matière<br>Werkstoff<br>Material | VC<br>(m/min) | f<br>(mm) | Débourrage<br>Entspannvorgang<br>Pecking |
|---|---|---|---|
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel (P) | 60 - 90 | D1/70 | 1.5xØ |
| Acier<br>Stahl<br>Steel <600 N/mm² (P) | 50 - 80 | D1/70 | 1.5xØ |
| Acier<br>Stahl<br>Steel <800 N/mm² (P) | 50 - 80 | D1/70 | 1.5xØ |
| Acier<br>Stahl<br>Steel >800 N/mm² (P) | 50 - 80 | D1/70 | 1.5xØ |
| Acier trempé<br>Gehärteter Stahl -55HRC (H)<br>Hardened steel | - | - | - |
| Acier trempé<br>Gehärteter Stahl +55HRC (H)<br>Hardened steel | - | - | - |
| Inox<br>Rostfreistahl (M)<br>Stainless steel | 20 - 30 | D1/70 | 3xØ |
| Aluminium (N) | 100 - 180 | D1/40 | 2xØ |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze (N)<br>Copper, brass, bronze | 50 - 85 | D1/120 | 1xØ |
| Matière synthétique<br>Synthetisches Material (N)<br>Synthetic material | 350 - 750 | D1/40 | 2xØ |
| Métaux précieux<br>Edelmetalle (N)<br>Precious metals | 60 - 90 | D1/100 | 0.85xØ |
| Titane<br>Titan (S)<br>Titanium | 20 - 40 | D1/120 | 1.3xØ |
| Alliage de nickel<br>Nickel-Legierung (S)<br>Nickel alloy | 20 | D1/120 | 1xØ |
| Matière exotique<br>Exotisches material (O)<br>Exotic material | 5 - 10 | D1/100 | 1xØ |

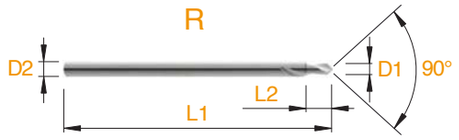
Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Datenum 20-30%erhöhen
With coating, increase data by20-30%




MD
VHM
HM
λ 25°
60°

| D1 h6 | L2 | D2 h5 | L1 | Art. N° | N | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 2.00 | 8.00 | 2.00 | 39 | 2680-2.00-60 | ● | ● | ● |
| 3.00 | 10.00 | 3.00 | 39 | 2680-3.00-60 | ● | ● | ● |
| 4.00 | 12.00 | 4.00 | 50 | 2680-4.00-60 | ● | ● | ● |
| 5.00 | 14.00 | 5.00 | 50 | 2680-5.00-60 | ● | ● | ● |
| 6.00 | 16.00 | 6.00 | 50 | 2680-6.00-60 | ● | ● | ● |



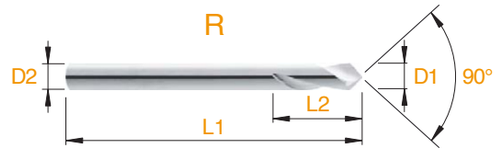



MD
VHM
HM
λ 25°
90°

R

| D1 h6 | L2 | D2 h5 | L1 | Art. N° | N |
|---|---|---|---|---|---|
| 0.50 | 1.50 | 2.00 | 39 | 2680-0.50-90 | ● |
| 0.60 | 1.50 | 2.00 | 39 | 2680-0.60-90 | ● |
| 0.70 | 1.50 | 2.00 | 39 | 2680-0.70-90 | ● |
| 0.80 | 1.50 | 2.00 | 39 | 2680-0.80-90 | ● |
| 0.90 | 1.50 | 2.00 | 39 | 2680-0.90-90 | ● |
| 1.00 | 3.00 | 2.00 | 39 | 2680-1.00-90 | ● |
| 1.10 | 3.00 | 2.00 | 39 | 2680-1.10-90 | ● |
| 1.20 | 3.00 | 2.00 | 39 | 2680-1.20-90 | ● |
| 1.30 | 3.00 | 2.00 | 39 | 2680-1.30-90 | ● |
| 1.40 | 3.00 | 2.00 | 39 | 2680-1.40-90 | ● |
| 1.50 | 4.00 | 2.00 | 39 | 2680-1.50-90 | ● |
| 1.60 | 4.00 | 2.00 | 39 | 2680-1.60-90 | ● |
| 1.70 | 4.00 | 2.00 | 39 | 2680-1.70-90 | ● |
| 1.80 | 4.00 | 2.00 | 39 | 2680-1.80-90 | ● |
| 1.90 | 4.00 | 2.00 | 39 | 2680-1.90-90 | ● |




MD
VHM
HM
λ 25°
90°

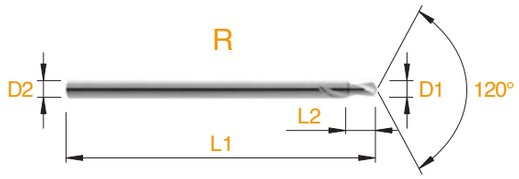
L

R

HSS

R

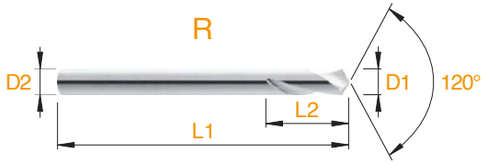
| D1 h6 | L2 | D2 h5 | L1 | L Art. N° | L N | R Art. N° | R N | R TiAlN | R STF | HSS R Art. N° | HSS R N |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 8.00 | 2.00 | 39 | 1680-2.00-90 | ● | 2680-2.00-90 | ● | ● | ● | - | |
| 2.50 | 8.00 | 2.50 | 39 | 1680-2.50-90 | ● | 2680-2.50-90 | ● | ● | ● | - | |
| 3.00 | 10.00 | 3.00 | 39 | 1680-3.00-90 | ● | 2680-3.00-90 | ● | ● | ● | 2680-3.00-90-HSS | ● |
| 4.00 | 12.00 | 4.00 | 50 | 1680-4.00-90 | ● | 2680-4.00-90 | ● | ● | ● | 2680-4.00-90-HSS | ● |
| 5.00 | 15.00 | 5.00 | 50 | 1680-5.00-90 | ● | 2680-5.00-90 | ● | ● | ● | 2680-5.00-90-HSS | ● |
| 6.00 | 16.00 | 6.00 | 57 | 1680-6.00-90 | ● | 2680-6.00-90 | ● | ● | ● | 2680-6.00-90-HSS | ● |
| 8.00 | 20.00 | 8.00 | 63 | 1680-8.00-90 | ● | 2680-8.00-90 | ● | | | 2680-8.00-90-HSS | ● |
| 10.00 | 22.00 | 10.00 | 72 | 1680-10.00-90 | ● | 2680-10.00-90 | ● | | | 2680-10.00-90-HSS | ● |
| 12.00 | 24.00 | 12.00 | 73 | 1680-12.00-90 | ● | 2680-12.00-90 | ● | | | 2680-12.00-90-HSS | ● |
| 16.00 | 26.00 | 16.00 | 82 | 1680-16.00-90 | ● | 2680-16.00-90 | ● | | | - | |
| 20.00 | 30.00 | 20.00 | 92 | - | | 2680-20.00-90 | ● | | | - | |




MD VHM HM | λ 25° | 120°

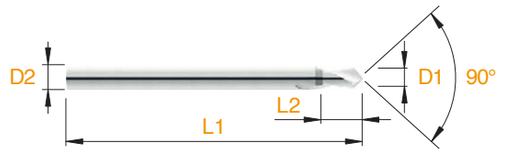
| D1 h6 | L2 | D2 h5 | L1 | R Art. N° | R Z |
|---|---|---|---|---|---|
| 0.50 | 1.50 | 2.00 | 39 | 2680-0.50-120 | ● |
| 0.60 | 1.50 | 2.00 | 39 | 2680-0.60-120 | ● |
| 0.70 | 1.50 | 2.00 | 39 | 2680-0.70-120 | ● |
| 0.80 | 1.50 | 2.00 | 39 | 2680-0.80-120 | ● |
| 0.90 | 1.50 | 2.00 | 39 | 2680-0.90-120 | ● |
| 1.00 | 3.00 | 2.00 | 39 | 2680-1.00-120 | ● |
| 1.10 | 3.00 | 2.00 | 39 | 2680-1.10-120 | ● |
| 1.20 | 3.00 | 2.00 | 39 | 2680-1.20-120 | ● |
| 1.30 | 3.00 | 2.00 | 39 | 2680-1.30-120 | ● |
| 1.40 | 3.00 | 2.00 | 39 | 2680-1.40-120 | ● |
| 1.50 | 4.00 | 2.00 | 39 | 2680-1.50-120 | ● |
| 1.60 | 4.00 | 2.00 | 39 | 2680-1.60-120 | ● |
| 1.70 | 4.00 | 2.00 | 39 | 2680-1.70-120 | ● |
| 1.80 | 4.00 | 2.00 | 39 | 2680-1.80-120 | ● |
| 1.90 | 4.00 | 2.00 | 39 | 2680-1.90-120 | ● |




MD VHM HM | λ 25° | 120°

| D1 h6 | L2 | D2 h5 | L1 | L Art. N° | L Z | R Art. N° | R Z | R TiAlN | R STF |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 8.00 | 2.00 | 39 | 1680-2.00-120 | ● | 2680-2.00-120 | ● | ● | ● |
| 2.50 | 8.00 | 2.50 | 39 | 1680-2.50-120 | ● | 2680-2.50-120 | ● | ● | ● |
| 3.00 | 10.00 | 3.00 | 39 | 1680-3.00-120 | ● | 2680-3.00-120 | ● | ● | ● |
| 4.00 | 12.00 | 4.00 | 50 | 1680-4.00-120 | ● | 2680-4.00-120 | ● | ● | ● |
| 5.00 | 15.00 | 5.00 | 50 | 1680-5.00-120 | ● | 2680-5.00-120 | ● | ● | ● |
| 6.00 | 16.00 | 6.00 | 57 | 1680-6.00-120 | ● | 2680-6.00-120 | ● | ● | ● |
| 8.00 | 20.00 | 8.00 | 63 | 1680-8.00-120 | ● | 2680-8.00-120 | ● | | |
| 10.00 | 22.00 | 10.00 | 72 | 1680-10.00-120 | ● | 2680-10.00-120 | ● | | |
| 12.00 | 24.00 | 12.00 | 73 | 1680-12.00-120 | ● | 2680-12.00-120 | ● | | |
| 16.00 | 26.00 | 16.00 | 82 | - | | 2680-16.00-120 | ● | | |
| 20.00 | 30.00 | 20.00 | 92 | - | | 2680-20.00-120 | ● | | |

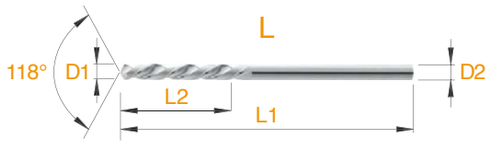



MD VHM HM | λ 32° * λ 25° | 90°

| D1 h5 | L2 | D2 h5 | L1 | Art. N° | Z | TiAlN | STF |
|---|---|---|---|---|---|---|---|
| 0.50* | 2.50 | 2.00 | 39 | 2690-0.50 | ● | | |
| 0.60* | 2.50 | 2.00 | 39 | 2690-0.60 | ● | | |
| 0.70* | 2.50 | 2.00 | 39 | 2690-0.70 | ● | | |
| 0.80* | 2.50 | 2.00 | 39 | 2690-0.80 | ● | | |
| 0.90* | 2.50 | 2.00 | 39 | 2690-0.90 | ● | | |
| 1.00 | 3.00 | 2.00 | 39 | 2690-1.00 | ● | | |
| 1.10 | 3.00 | 2.00 | 39 | 2690-1.10 | ● | | |
| 1.20 | 3.00 | 2.00 | 39 | 2690-1.20 | ● | | |
| 1.30 | 3.00 | 2.00 | 39 | 2690-1.30 | ● | | |
| 1.40 | 3.00 | 2.00 | 39 | 2690-1.40 | ● | | |
| 1.50 | 3.50 | 2.00 | 39 | 2690-1.50 | ● | | |
| 1.60 | 3.50 | 2.00 | 39 | 2690-1.60 | ● | | |
| 1.70 | 3.50 | 2.00 | 39 | 2690-1.70 | ● | | |
| 1.80 | 3.50 | 2.00 | 39 | 2690-1.80 | ● | | |
| 1.90 | 3.50 | 2.00 | 39 | 2690-1.90 | ● | | |
| 2.00 | - | 2.00 | 39 | 2690-2.00 | ● | ● | ● |
| 2.10 | 4.00 | 3.00 | 39 | 2690-2.10 | ● | ● | ● |
| 2.20 | 4.00 | 3.00 | 39 | 2690-2.20 | ● | ● | ● |
| 2.30 | 4.00 | 3.00 | 39 | 2690-2.30 | ● | ● | ● |
| 2.40 | 4.00 | 3.00 | 39 | 2690-2.40 | ● | ● | ● |
| 2.50 | 4.00 | 3.00 | 39 | 2690-2.50 | ● | ● | ● |
| 2.60 | 4.00 | 3.00 | 39 | 2690-2.60 | ● | ● | ● |
| 2.70 | 4.00 | 3.00 | 39 | 2690-2.70 | ● | ● | ● |
| 2.80 | 4.00 | 3.00 | 39 | 2690-2.80 | ● | ● | ● |
| 2.90 | 4.00 | 3.00 | 39 | 2690-2.90 | ● | ● | ● |
| 3.00 | - | 3.00 | 50 | 2690-3.00 | ● | ● | ● |

Forets cylindriques
Zylindrische Bohrer
Cylindrical drills






MD
VHM
HM

λ 25°

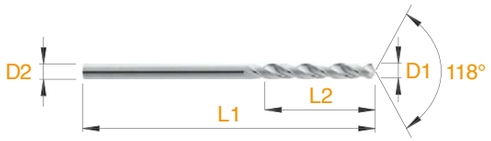
Z=2

118°

L

L

| D1 h6 D2 h6 | L1 | L2 | Art. N° | z | D1 h6 D2 h6 | L1 | L2 | Art. N° | z |
|---|---|---|---|---|---|---|---|---|---|
| 0.50 | 30 | 5.00 | 1010-0.50 | ● | 2.55 | 45 | 18.00 | 1010-2.55 | ● |
| 0.55 | 30 | 5.00 | 1010-0.55 | ● | 2.60 | 45 | 18.00 | 1010-2.60 | ● |
| 0.60 | 30 | 5.00 | 1010-0.60 | ● | 2.65 | 45 | 18.00 | 1010-2.65 | ● |
| 0.65 | 30 | 6.00 | 1010-0.65 | ● | 2.70 | 45 | 18.00 | 1010-2.70 | ● |
| 0.70 | 30 | 6.00 | 1010-0.70 | ● | 2.75 | 45 | 18.00 | 1010-2.75 | ● |
| 0.75 | 30 | 8.00 | 1010-0.75 | ● | 2.80 | 45 | 18.00 | 1010-2.80 | ● |
| 0.80 | 30 | 8.00 | 1010-0.80 | ● | 2.85 | 45 | 18.00 | 1010-2.85 | ● |
| 0.85 | 30 | 9.00 | 1010-0.85 | ● | 2.90 | 45 | 18.00 | 1010-2.90 | ● |
| 0.90 | 30 | 9.00 | 1010-0.90 | ● | 2.95 | 45 | 18.00 | 1010-2.95 | ● |
| 0.95 | 30 | 10.00 | 1010-0.95 | ● | 3.00 | 45 | 18.00 | 1010-3.00 | ● |
| 1.00 | 30 | 10.00 | 1010-1.00 | ● | 3.10 | 50 | 20.00 | 1010-3.10 | ● |
| 1.05 | 30 | 10.00 | 1010-1.05 | ● | 3.20 | 50 | 20.00 | 1010-3.20 | ● |
| 1.10 | 30 | 10.00 | 1010-1.10 | ● | 3.30 | 50 | 20.00 | 1010-3.30 | ● |
| 1.15 | 30 | 12.00 | 1010-1.15 | ● | 3.40 | 50 | 20.00 | 1010-3.40 | ● |
| 1.20 | 30 | 12.00 | 1010-1.20 | ● | 3.50 | 50 | 20.00 | 1010-3.50 | ● |
| 1.25 | 30 | 12.00 | 1010-1.25 | ● | 3.60 | 50 | 20.00 | 1010-3.60 | ● |
| 1.30 | 30 | 12.00 | 1010-1.30 | ● | 3.70 | 50 | 20.00 | 1010-3.70 | ● |
| 1.35 | 30 | 12.00 | 1010-1.35 | ● | 3.80 | 50 | 20.00 | 1010-3.80 | ● |
| 1.40 | 30 | 12.00 | 1010-1.40 | ● | 3.90 | 50 | 20.00 | 1010-3.90 | ● |
| 1.45 | 30 | 12.00 | 1010-1.45 | ● | 4.00 | 50 | 20.00 | 1010-4.00 | ● |
| 1.50 | 30 | 12.00 | 1010-1.50 | ● | 4.10 | 50 | 25.00 | 1010-4.10 | ● |
| 1.55 | 40 | 16.00 | 1010-1.55 | ● | 4.20 | 50 | 25.00 | 1010-4.20 | ● |
| 1.60 | 40 | 16.00 | 1010-1.60 | ● | 4.30 | 50 | 25.00 | 1010-4.30 | ● |
| 1.65 | 40 | 16.00 | 1010-1.65 | ● | 4.40 | 50 | 25.00 | 1010-4.40 | ● |
| 1.70 | 40 | 16.00 | 1010-1.70 | ● | 4.50 | 50 | 25.00 | 1010-4.50 | ● |
| 1.75 | 40 | 16.00 | 1010-1.75 | ● | 4.60 | 50 | 25.00 | 1010-4.60 | ● |
| 1.80 | 40 | 16.00 | 1010-1.80 | ● | 4.70 | 50 | 25.00 | 1010-4.70 | ● |
| 1.85 | 40 | 16.00 | 1010-1.85 | ● | 4.80 | 50 | 25.00 | 1010-4.80 | ● |
| 1.90 | 40 | 16.00 | 1010-1.90 | ● | 4.90 | 50 | 25.00 | 1010-4.90 | ● |
| 1.95 | 40 | 16.00 | 1010-1.95 | ● | 5.00 | 50 | 25.00 | 1010-5.00 | ● |
| 2.00 | 40 | 16.00 | 1010-2.00 | ● | 5.10 | 50 | 25.00 | 1010-5.10 | ● |
| 2.05 | 40 | 18.00 | 1010-2.05 | ● | 5.20 | 50 | 25.00 | 1010-5.20 | ● |
| 2.10 | 40 | 18.00 | 1010-2.10 | ● | 5.30 | 50 | 25.00 | 1010-5.30 | ● |
| 2.15 | 40 | 18.00 | 1010-2.15 | ● | 5.40 | 50 | 25.00 | 1010-5.40 | ● |
| 2.20 | 40 | 18.00 | 1010-2.20 | ● | 5.50 | 50 | 25.00 | 1010-5.50 | ● |
| 2.25 | 40 | 18.00 | 1010-2.25 | ● | 5.60 | 50 | 25.00 | 1010-5.60 | ● |
| 2.30 | 40 | 18.00 | 1010-2.30 | ● | 5.70 | 50 | 25.00 | 1010-5.70 | ● |
| 2.35 | 40 | 18.00 | 1010-2.35 | ● | 5.80 | 50 | 25.00 | 1010-5.80 | ● |
| 2.40 | 40 | 18.00 | 1010-2.40 | ● | 5.90 | 50 | 25.00 | 1010-5.90 | ● |
| 2.45 | 40 | 18.00 | 1010-2.45 | ● | 6.00 | 50 | 25.00 | 1010-6.00 | ● |
| 2.50 | 40 | 18.00 | 1010-2.50 | ● | | | | | |




MD
VHM
HM

λ 25°/35°

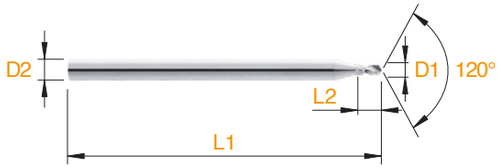
Z=2

118°

| D1 h6 D2 h6 | L1 | L2 | Art. N° | z | D1 h6 D2 h6 | L1 | L2 | Art. N° | z |
|---|---|---|---|---|---|---|---|---|---|
| 0.50 | 30 | 5.00 | 2010-0.50 | ● | 2.55 | 45 | 18.00 | 2010-2.55 | ● |
| 0.55 | 30 | 5.00 | 2010-0.55 | ● | 2.60 | 45 | 18.00 | 2010-2.60 | ● |
| 0.60 | 30 | 5.00 | 2010-0.60 | ● | 2.65 | 45 | 18.00 | 2010-2.65 | ● |
| 0.65 | 30 | 6.00 | 2010-0.65 | ● | 2.70 | 45 | 18.00 | 2010-2.70 | ● |
| 0.70 | 30 | 6.00 | 2010-0.70 | ● | 2.75 | 45 | 18.00 | 2010-2.75 | ● |
| 0.75 | 30 | 8.00 | 2010-0.75 | ● | 2.80 | 45 | 18.00 | 2010-2.80 | ● |
| 0.80 | 30 | 8.00 | 2010-0.80 | ● | 2.85 | 45 | 18.00 | 2010-2.85 | ● |
| 0.85 | 30 | 9.00 | 2010-0.85 | ● | 2.90 | 45 | 18.00 | 2010-2.90 | ● |
| 0.90 | 30 | 9.00 | 2010-0.90 | ● | 2.95 | 45 | 18.00 | 2010-2.95 | ● |
| 0.95 | 30 | 10.00 | 2010-0.95 | ● | 3.00 | 45 | 18.00 | 2010-3.00 | ● |
| 1.00 | 30 | 10.00 | 2010-1.00 | ● | 3.10 | 50 | 20.00 | 2010-3.10 | ● |
| 1.05 | 30 | 10.00 | 2010-1.05 | ● | 3.20 | 50 | 20.00 | 2010-3.20 | ● |
| 1.10 | 30 | 10.00 | 2010-1.10 | ● | 3.30 | 50 | 20.00 | 2010-3.30 | ● |
| 1.15 | 30 | 12.00 | 2010-1.15 | ● | 3.40 | 50 | 20.00 | 2010-3.40 | ● |
| 1.20 | 30 | 12.00 | 2010-1.20 | ● | 3.50 | 50 | 20.00 | 2010-3.50 | ● |
| 1.25 | 30 | 12.00 | 2010-1.25 | ● | 3.60 | 50 | 20.00 | 2010-3.60 | ● |
| 1.30 | 30 | 12.00 | 2010-1.30 | ● | 3.70 | 50 | 20.00 | 2010-3.70 | ● |
| 1.35 | 30 | 12.00 | 2010-1.35 | ● | 3.80 | 50 | 20.00 | 2010-3.80 | ● |
| 1.40 | 30 | 12.00 | 2010-1.40 | ● | 3.90 | 50 | 20.00 | 2010-3.90 | ● |
| 1.45 | 30 | 12.00 | 2010-1.45 | ● | 4.00 | 50 | 20.00 | 2010-4.00 | ● |
| 1.50 | 30 | 12.00 | 2010-1.50 | ● | 4.10 | 50 | 25.00 | 2010-4.10 | ● |
| 1.55 | 40 | 16.00 | 2010-1.55 | ● | 4.20 | 50 | 25.00 | 2010-4.20 | ● |
| 1.60 | 40 | 16.00 | 2010-1.60 | ● | 4.30 | 50 | 25.00 | 2010-4.30 | ● |
| 1.65 | 40 | 16.00 | 2010-1.65 | ● | 4.40 | 50 | 25.00 | 2010-4.40 | ● |
| 1.70 | 40 | 16.00 | 2010-1.70 | ● | 4.50 | 50 | 25.00 | 2010-4.50 | ● |
| 1.75 | 40 | 16.00 | 2010-1.75 | ● | 4.60 | 50 | 25.00 | 2010-4.60 | ● |
| 1.80 | 40 | 16.00 | 2010-1.80 | ● | 4.70 | 50 | 25.00 | 2010-4.70 | ● |
| 1.85 | 40 | 16.00 | 2010-1.85 | ● | 4.80 | 50 | 25.00 | 2010-4.80 | ● |
| 1.90 | 40 | 16.00 | 2010-1.90 | ● | 4.90 | 50 | 25.00 | 2010-4.90 | ● |
| 1.95 | 40 | 16.00 | 2010-1.95 | ● | 5.00 | 50 | 25.00 | 2010-5.00 | ● |
| 2.00 | 40 | 16.00 | 2010-2.00 | ● | 5.10 | 50 | 25.00 | 2010-5.10 | ● |
| 2.05 | 40 | 18.00 | 2010-2.05 | ● | 5.20 | 50 | 25.00 | 2010-5.20 | ● |
| 2.10 | 40 | 18.00 | 2010-2.10 | ● | 5.30 | 50 | 25.00 | 2010-5.30 | ● |
| 2.15 | 40 | 18.00 | 2010-2.15 | ● | 5.40 | 50 | 25.00 | 2010-5.40 | ● |
| 2.20 | 40 | 18.00 | 2010-2.20 | ● | 5.50 | 50 | 25.00 | 2010-5.50 | ● |
| 2.25 | 40 | 18.00 | 2010-2.25 | ● | 5.60 | 50 | 25.00 | 2010-5.60 | ● |
| 2.30 | 40 | 18.00 | 2010-2.30 | ● | 5.70 | 50 | 25.00 | 2010-5.70 | ● |
| 2.35 | 40 | 18.00 | 2010-2.35 | ● | 5.80 | 50 | 25.00 | 2010-5.80 | ● |
| 2.40 | 40 | 18.00 | 2010-2.40 | ● | 5.90 | 50 | 25.00 | 2010-5.90 | ● |
| 2.45 | 40 | 18.00 | 2010-2.45 | ● | 6.00 | 50 | 25.00 | 2010-6.00 | ● |
| 2.50 | 40 | 18.00 | 2010-2.50 | ● | | | | | |

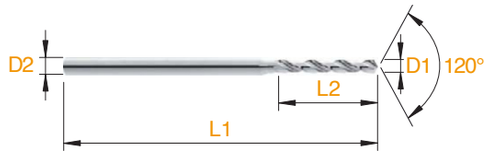
Micro-forets
Mikrobohrer
Micro drills

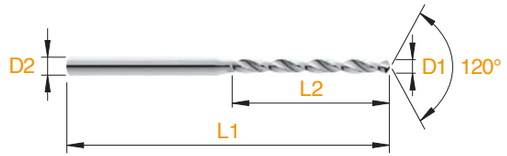











MD VHM HM | λ 30° | Z=2 | 120°

| D1 h6 | L2 | D2 h6 | L1 | Art. N° | Z |
|---|---|---|---|---|---|
| 0.80 | 2.50 | 2.00 | 30 | 2011-0.80 | ● |
| 0.90 | 2.50 | 2.00 | 30 | 2011-0.90 | ● |
| 1.00 | 2.50 | 2.00 | 30 | 2011-1.00 | ● |
| 1.10 | 2.50 | 2.00 | 30 | 2011-1.10 | ● |
| 1.20 | 2.50 | 2.00 | 30 | 2011-1.20 | ● |
| 1.30 | 2.50 | 2.00 | 30 | 2011-1.30 | ● |
| 1.40 | 2.50 | 2.00 | 30 | 2011-1.40 | ● |
| 1.50 | 2.50 | 2.00 | 30 | 2011-1.50 | ● |
| 2.00 | 2.50 | 2.00 | 30 | 2011-2.00 | ● |

MD VHM HM | λ 24° | Z=2 | 120°

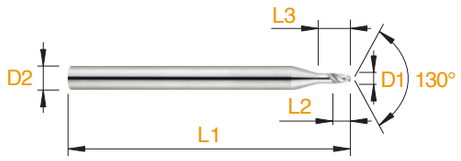
| D1 h6 | L2 | D2 Ø1.5h6 Ø2h6 Ø3h5 | L1 | Art. N° | Z |
|---|---|---|---|---|---|
| 0.50 | 1.70 | 1.50 | 30 | 2012-0.50 | ● |
| 0.55 | 1.90 | 1.50 | 30 | 2012-0.55 | ● |
| 0.60 | 1.90 | 1.50 | 30 | 2012-0.60 | ● |
| 0.65 | 1.90 | 1.50 | 30 | 2012-0.65 | ● |
| 0.70 | 2.40 | 1.50 | 30 | 2012-0.70 | ● |
| 0.75 | 2.40 | 1.50 | 30 | 2012-0.75 | ● |
| 0.80 | 2.60 | 1.50 | 30 | 2012-0.80 | ● |
| 0.85 | 2.60 | 1.50 | 30 | 2012-0.85 | ● |
| 0.90 | 3.00 | 1.50 | 30 | 2012-0.90 | ● |
| 0.95 | 3.00 | 1.50 | 30 | 2012-0.95 | ● |
| 1.00 | 3.40 | 1.50 | 30 | 2012-1.00 | ● |
| 1.10 | 3.80 | 1.50 | 30 | 2012-1.10 | ● |
| 1.20 | 4.20 | 1.50 | 30 | 2012-1.20 | ● |
| 1.30 | 4.20 | 1.50 | 30 | 2012-1.30 | ● |
| 1.40 | 4.70 | 1.50 | 30 | 2012-1.40 | ● |
| 1.50 | 4.70 | 2.00 | 38 | 2012-1.50 | ● |
| 1.60 | 5.40 | 2.00 | 38 | 2012-1.60 | ● |
| 1.70 | 5.40 | 2.00 | 38 | 2012-1.70 | ● |
| 1.80 | 6.50 | 2.00 | 38 | 2012-1.80 | ● |
| 1.90 | 6.50 | 2.00 | 38 | 2012-1.90 | ● |
| 2.00 | 6.50 | 3.00 | 38 | 2012-2.00 | ● |
| 2.10 | 6.50 | 3.00 | 38 | 2012-2.10 | ● |
| 2.20 | 6.50 | 3.00 | 38 | 2012-2.20 | ● |
| 2.30 | 6.50 | 3.00 | 38 | 2012-2.30 | ● |
| 2.40 | 6.50 | 3.00 | 38 | 2012-2.40 | ● |

MD VHM HM | λ 35° | Z=2 | 120°

| D1 h6 | L2 | D2 h6 | L1 | Art. N° | Z |
|---|---|---|---|---|---|
| 0.40 | 3.60 | 1.00 | 25 | 2013-0.40 | ● |
| 0.45 | 3.60 | 1.00 | 25 | 2013-0.45 | ● |
| 0.50 | 4.00 | 1.00 | 25 | 2013-0.50 | ● |
| 0.55 | 4.50 | 1.00 | 25 | 2013-0.55 | ● |
| 0.60 | 4.50 | 1.50 | 30 | 2013-0.60 | ● |
| 0.65 | 5.00 | 1.50 | 30 | 2013-0.65 | ● |
| 0.70 | 5.60 | 1.50 | 30 | 2013-0.70 | ● |
| 0.75 | 5.60 | 1.50 | 30 | 2013-0.75 | ● |
| 0.80 | 6.30 | 1.50 | 30 | 2013-0.80 | ● |
| 0.85 | 6.30 | 1.50 | 30 | 2013-0.85 | ● |
| 0.90 | 7.10 | 1.50 | 30 | 2013-0.90 | ● |
| 0.95 | 7.10 | 1.50 | 30 | 2013-0.95 | ● |
| 1.00 | 8.00 | 1.50 | 30 | 2013-1.00 | ● |
| 1.05 | 8.00 | 1.50 | 30 | 2013-1.05 | ● |
| 1.10 | 9.00 | 1.50 | 30 | 2013-1.10 | ● |
| 1.15 | 9.00 | 1.50 | 30 | 2013-1.15 | ● |
| 1.20 | 10.00 | 1.50 | 30 | 2013-1.20 | ● |
| 1.25 | 10.00 | 1.50 | 30 | 2013-1.25 | ● |
| 1.30 | 10.00 | 1.50 | 30 | 2013-1.30 | ● |
| 1.35 | 11.20 | 1.50 | 30 | 2013-1.35 | ● |
| 1.40 | 11.20 | 1.50 | 30 | 2013-1.40 | ● |
| 1.45 | 11.20 | 1.50 | 30 | 2013-1.45 | ● |
| 1.50 | 12.00 | 2.00 | 38 | 2013-1.50 | ● |
| 1.60 | 12.00 | 2.00 | 38 | 2013-1.60 | ● |
| 1.70 | 12.00 | 2.00 | 38 | 2013-1.70 | ● |
| 1.80 | 12.00 | 2.00 | 38 | 2013-1.80 | ● |
| 1.90 | 12.00 | 2.00 | 38 | 2013-1.90 | ● |

MD VHM HM | λ 30° | Z=2 | 120°

| D1 h6 | L2 | D2 h6 | L1 | Art. N° | Z |
|---|---|---|---|---|---|
| 0.50 | 6.00 | 1.50 | 30 | 2014-0.50 | ● |
| 0.55 | 6.50 | 1.50 | 30 | 2014-0.55 | ● |
| 0.60 | 6.50 | 1.50 | 30 | 2014-0.60 | ● |
| 0.65 | 7.50 | 1.50 | 30 | 2014-0.65 | ● |
| 0.70 | 8.50 | 1.50 | 30 | 2014-0.70 | ● |
| 0.75 | 8.50 | 1.50 | 30 | 2014-0.75 | ● |
| 0.80 | 9.50 | 1.50 | 30 | 2014-0.80 | ● |
| 0.85 | 9.50 | 1.50 | 30 | 2014-0.85 | ● |
| 0.90 | 10.50 | 1.50 | 30 | 2014-0.90 | ● |
| 0.95 | 10.50 | 1.50 | 30 | 2014-0.95 | ● |
| 1.00 | 12.00 | 1.50 | 38 | 2014-1.00 | ● |
| 1.05 | 12.00 | 1.50 | 38 | 2014-1.05 | ● |
| 1.10 | 13.50 | 1.50 | 38 | 2014-1.10 | ● |
| 1.15 | 13.50 | 1.50 | 38 | 2014-1.15 | ● |
| 1.20 | 15.00 | 1.50 | 38 | 2014-1.20 | ● |
| 1.25 | 15.00 | 1.50 | 38 | 2014-1.25 | ● |
| 1.30 | 17.00 | 1.50 | 38 | 2014-1.30 | ● |
| 1.35 | 17.00 | 1.50 | 38 | 2014-1.35 | ● |
| 1.40 | 17.00 | 1.50 | 38 | 2014-1.40 | ● |
| 1.45 | 17.00 | 1.50 | 38 | 2014-1.45 | ● |
| 1.50 | 18.00 | 2.00 | 38 | 2014-1.50 | ● |
| 1.55 | 18.00 | 2.00 | 38 | 2014-1.55 | ● |
| 1.60 | 18.00 | 2.00 | 38 | 2014-1.60 | ● |
| 1.65 | 18.00 | 2.00 | 38 | 2014-1.65 | ● |
| 1.70 | 18.00 | 2.00 | 38 | 2014-1.70 | ● |
| 1.75 | 18.00 | 2.00 | 38 | 2014-1.75 | ● |
| 1.80 | 18.00 | 2.00 | 38 | 2014-1.80 | ● |
| 1.85 | 18.00 | 2.00 | 38 | 2014-1.85 | ● |
| 1.90 | 18.00 | 2.00 | 38 | 2014-1.90 | ● |
| 1.95 | 18.00 | 2.00 | 38 | 2014-1.95 | ● |




| MD VHM HM | λ 30° | 2xD1 | Z=2 | 130° | |
|---|---|---|---|---|---|

| D1 +0.005/ 0 | L2 | L3 | D2 h6 | L1 | Art. N° | Z |
|---|---|---|---|---|---|---|
| 0.10 | 0.35 | 0.55 | 3.00 | 38 | 2020-0.10 | ● |
| 0.11 | 0.35 | 0.55 | 3.00 | 38 | 2020-0.11 | ● |
| 0.12 | 0.35 | 0.55 | 3.00 | 38 | 2020-0.12 | ● |
| 0.13 | 0.40 | 0.60 | 3.00 | 38 | 2020-0.13 | ● |
| 0.14 | 0.40 | 0.60 | 3.00 | 38 | 2020-0.14 | ● |
| 0.15 | 0.40 | 0.60 | 3.00 | 38 | 2020-0.15 | ● |
| 0.16 | 0.40 | 0.60 | 3.00 | 38 | 2020-0.16 | ● |
| 0.17 | 0.50 | 0.70 | 3.00 | 38 | 2020-0.17 | ● |
| 0.18 | 0.50 | 0.70 | 3.00 | 38 | 2020-0.18 | ● |
| 0.19 | 0.50 | 0.70 | 3.00 | 38 | 2020-0.19 | ● |
| 0.20 | 0.55 | 0.75 | 3.00 | 38 | 2020-0.20 | ● |
| 0.21 | 0.55 | 0.75 | 3.00 | 38 | 2020-0.21 | ● |
| 0.22 | 0.60 | 0.80 | 3.00 | 38 | 2020-0.22 | ● |
| 0.23 | 0.60 | 0.80 | 3.00 | 38 | 2020-0.23 | ● |
| 0.24 | 0.60 | 0.80 | 3.00 | 38 | 2020-0.24 | ● |
| 0.25 | 0.70 | 0.90 | 3.00 | 38 | 2020-0.25 | ● |
| 0.26 | 0.70 | 0.90 | 3.00 | 38 | 2020-0.26 | ● |
| 0.27 | 0.70 | 0.90 | 3.00 | 38 | 2020-0.27 | ● |
| 0.28 | 0.80 | 1.00 | 3.00 | 38 | 2020-0.28 | ● |
| 0.29 | 0.80 | 1.00 | 3.00 | 38 | 2020-0.29 | ● |
| 0.30 | 0.90 | 1.20 | 3.00 | 38 | 2020-0.30 | ● |
| 0.31 | 0.90 | 1.20 | 3.00 | 38 | 2020-0.31 | ● |
| 0.32 | 0.90 | 1.20 | 3.00 | 38 | 2020-0.32 | ● |
| 0.33 | 0.90 | 1.20 | 3.00 | 38 | 2020-0.33 | ● |
| 0.34 | 0.90 | 1.35 | 3.00 | 38 | 2020-0.34 | ● |
| 0.35 | 0.90 | 1.35 | 3.00 | 38 | 2020-0.35 | ● |
| 0.36 | 0.95 | 1.35 | 3.00 | 38 | 2020-0.36 | ● |
| 0.37 | 0.95 | 1.35 | 3.00 | 38 | 2020-0.37 | ● |
| 0.38 | 0.95 | 1.50 | 3.00 | 38 | 2020-0.38 | ● |
| 0.39 | 0.95 | 1.50 | 3.00 | 38 | 2020-0.39 | ● |
| 0.40 | 0.80 | 1.60 | 3.00 | 38 | 2020-0.40 | ● |
| 0.41 | 0.82 | 1.60 | 3.00 | 38 | 2020-0.41 | ● |
| 0.42 | 0.84 | 1.60 | 3.00 | 38 | 2020-0.42 | ● |
| 0.43 | 0.86 | 1.60 | 3.00 | 38 | 2020-0.43 | ● |
| 0.44 | 0.88 | 1.60 | 3.00 | 38 | 2020-0.44 | ● |
| 0.45 | 0.90 | 1.60 | 3.00 | 38 | 2020-0.45 | ● |
| 0.46 | 0.92 | 1.70 | 3.00 | 38 | 2020-0.46 | ● |
| 0.47 | 0.94 | 1.70 | 3.00 | 38 | 2020-0.47 | ● |
| 0.48 | 0.96 | 1.70 | 3.00 | 38 | 2020-0.48 | ● |
| 0.49 | 0.98 | 1.70 | 3.00 | 38 | 2020-0.49 | ● |
| 0.50 | 1.00 | 1.70 | 3.00 | 38 | 2020-0.50 | ● |
| 0.51 | 1.02 | 1.80 | 3.00 | 38 | 2020-0.51 | ● |
| 0.52 | 1.04 | 1.80 | 3.00 | 38 | 2020-0.52 | ● |
| 0.53 | 1.06 | 1.80 | 3.00 | 38 | 2020-0.53 | ● |
| 0.54 | 1.08 | 1.80 | 3.00 | 38 | 2020-0.54 | ● |
| 0.55 | 1.10 | 1.80 | 3.00 | 38 | 2020-0.55 | ● |
| 0.56 | 1.12 | 1.90 | 3.00 | 38 | 2020-0.56 | ● |
| 0.57 | 1.14 | 1.90 | 3.00 | 38 | 2020-0.57 | ● |
| 0.58 | 1.16 | 1.90 | 3.00 | 38 | 2020-0.58 | ● |
| 0.59 | 1.18 | 1.90 | 3.00 | 38 | 2020-0.59 | ● |
| 0.60 | 1.20 | 1.90 | 3.00 | 38 | 2020-0.60 | ● |
| 0.61 | 1.22 | 2.00 | 3.00 | 38 | 2020-0.61 | ● |
| 0.62 | 1.24 | 2.00 | 3.00 | 38 | 2020-0.62 | ● |
| 0.63 | 1.26 | 2.00 | 3.00 | 38 | 2020-0.63 | ● |
| 0.64 | 1.28 | 2.00 | 3.00 | 38 | 2020-0.64 | ● |
| 0.65 | 1.30 | 2.00 | 3.00 | 38 | 2020-0.65 | ● |
| 0.66 | 1.32 | 2.10 | 3.00 | 38 | 2020-0.66 | ● |
| 0.67 | 1.34 | 2.10 | 3.00 | 38 | 2020-0.67 | ● |
| 0.68 | 1.36 | 2.10 | 3.00 | 38 | 2020-0.68 | ● |
| 0.69 | 1.38 | 2.10 | 3.00 | 38 | 2020-0.69 | ● |
| 0.70 | 1.40 | 2.10 | 3.00 | 38 | 2020-0.70 | ● |
| 0.71 | 1.42 | 2.20 | 3.00 | 38 | 2020-0.71 | ● |
| 0.72 | 1.44 | 2.20 | 3.00 | 38 | 2020-0.72 | ● |
| 0.73 | 1.46 | 2.20 | 3.00 | 38 | 2020-0.73 | ● |
| 0.74 | 1.48 | 2.20 | 3.00 | 38 | 2020-0.74 | ● |
| 0.75 | 1.50 | 2.20 | 3.00 | 38 | 2020-0.75 | ● |
| 0.76 | 1.52 | 2.30 | 3.00 | 38 | 2020-0.76 | ● |
| 0.77 | 1.54 | 2.30 | 3.00 | 38 | 2020-0.77 | ● |
| 0.78 | 1.56 | 2.30 | 3.00 | 38 | 2020-0.78 | ● |
| 0.79 | 1.58 | 2.30 | 3.00 | 38 | 2020-0.79 | ● |
| 0.80 | 1.60 | 2.30 | 3.00 | 38 | 2020-0.80 | ● |
| 0.81 | 1.62 | 2.40 | 3.00 | 38 | 2020-0.81 | ● |
| 0.82 | 1.64 | 2.40 | 3.00 | 38 | 2020-0.82 | ● |
| 0.83 | 1.66 | 2.40 | 3.00 | 38 | 2020-0.83 | ● |
| 0.84 | 1.68 | 2.40 | 3.00 | 38 | 2020-0.84 | ● |
| 0.85 | 1.70 | 2.40 | 3.00 | 38 | 2020-0.85 | ● |
| 0.86 | 1.72 | 2.50 | 3.00 | 38 | 2020-0.86 | ● |
| 0.87 | 1.74 | 2.50 | 3.00 | 38 | 2020-0.87 | ● |
| 0.88 | 1.76 | 2.50 | 3.00 | 38 | 2020-0.88 | ● |
| 0.89 | 1.78 | 2.50 | 3.00 | 38 | 2020-0.89 | ● |
| 0.90 | 1.80 | 2.50 | 3.00 | 38 | 2020-0.90 | ● |
| 0.91 | 1.82 | 2.60 | 3.00 | 38 | 2020-0.91 | ● |
| 0.92 | 1.84 | 2.60 | 3.00 | 38 | 2020-0.92 | ● |
| 0.93 | 1.86 | 2.60 | 3.00 | 38 | 2020-0.93 | ● |
| 0.94 | 1.88 | 2.60 | 3.00 | 38 | 2020-0.94 | ● |
| 0.95 | 1.90 | 2.60 | 3.00 | 38 | 2020-0.95 | ● |
| 0.96 | 1.92 | 2.70 | 3.00 | 38 | 2020-0.96 | ● |
| 0.97 | 1.94 | 2.70 | 3.00 | 38 | 2020-0.97 | ● |
| 0.98 | 1.96 | 2.70 | 3.00 | 38 | 2020-0.98 | ● |
| 0.99 | 1.98 | 2.70 | 3.00 | 38 | 2020-0.99 | ● |



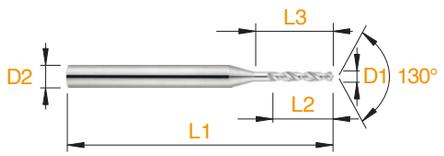


| D1 +0.005/ 0 | L2 | L3 | D2 h6 | L1 | Art. N° | Z |
|---|---|---|---|---|---|---|
| 1.00 | 2.00 | 2.70 | 3.00 | 38 | 2020-1.00 | ● |
| 1.01 | 2.02 | 3.50 | 3.00 | 38 | 2020-1.01 | ● |
| 1.02 | 2.04 | 3.50 | 3.00 | 38 | 2020-1.02 | ● |
| 1.03 | 2.06 | 3.50 | 3.00 | 38 | 2020-1.03 | ● |
| 1.04 | 2.08 | 3.50 | 3.00 | 38 | 2020-1.04 | ● |
| 1.05 | 2.10 | 3.50 | 3.00 | 38 | 2020-1.05 | ● |
| 1.06 | 2.12 | 3.60 | 3.00 | 38 | 2020-1.06 | ● |
| 1.07 | 2.14 | 3.60 | 3.00 | 38 | 2020-1.07 | ● |
| 1.08 | 2.16 | 3.60 | 3.00 | 38 | 2020-1.08 | ● |
| 1.09 | 2.18 | 3.60 | 3.00 | 38 | 2020-1.09 | ● |
| 1.10 | 2.20 | 3.60 | 3.00 | 38 | 2020-1.10 | ● |
| 1.11 | 2.22 | 3.70 | 3.00 | 38 | 2020-1.11 | ● |
| 1.12 | 2.24 | 3.70 | 3.00 | 38 | 2020-1.12 | ● |
| 1.13 | 2.26 | 3.70 | 3.00 | 38 | 2020-1.13 | ● |
| 1.14 | 2.28 | 3.70 | 3.00 | 38 | 2020-1.14 | ● |
| 1.15 | 2.30 | 3.70 | 3.00 | 38 | 2020-1.15 | ● |
| 1.16 | 2.32 | 3.80 | 3.00 | 38 | 2020-1.16 | ● |
| 1.17 | 2.34 | 3.80 | 3.00 | 38 | 2020-1.17 | ● |
| 1.18 | 2.36 | 3.80 | 3.00 | 38 | 2020-1.18 | ● |
| 1.19 | 2.38 | 3.80 | 3.00 | 38 | 2020-1.19 | ● |
| 1.20 | 2.40 | 3.80 | 3.00 | 38 | 2020-1.20 | ● |
| 1.21 | 2.42 | 4.20 | 3.00 | 38 | 2020-1.21 | ● |
| 1.22 | 2.44 | 4.20 | 3.00 | 38 | 2020-1.22 | ● |
| 1.23 | 2.46 | 4.20 | 3.00 | 38 | 2020-1.23 | ● |
| 1.24 | 2.48 | 4.20 | 3.00 | 38 | 2020-1.24 | ● |
| 1.25 | 2.50 | 4.20 | 3.00 | 38 | 2020-1.25 | ● |
| 1.26 | 2.52 | 4.30 | 3.00 | 38 | 2020-1.26 | ● |
| 1.27 | 2.54 | 4.30 | 3.00 | 38 | 2020-1.27 | ● |
| 1.28 | 2.56 | 4.30 | 3.00 | 38 | 2020-1.28 | ● |
| 1.29 | 2.58 | 4.30 | 3.00 | 38 | 2020-1.29 | ● |
| 1.30 | 2.60 | 4.30 | 3.00 | 38 | 2020-1.30 | ● |
| 1.31 | 2.62 | 4.40 | 3.00 | 38 | 2020-1.31 | ● |
| 1.32 | 2.64 | 4.40 | 3.00 | 38 | 2020-1.32 | ● |
| 1.33 | 2.66 | 4.40 | 3.00 | 38 | 2020-1.33 | ● |
| 1.34 | 2.68 | 4.40 | 3.00 | 38 | 2020-1.34 | ● |
| 1.35 | 2.70 | 4.40 | 3.00 | 38 | 2020-1.35 | ● |
| 1.36 | 2.72 | 4.50 | 3.00 | 38 | 2020-1.36 | ● |
| 1.37 | 2.74 | 4.50 | 3.00 | 38 | 2020-1.37 | ● |
| 1.38 | 2.76 | 4.50 | 3.00 | 38 | 2020-1.38 | ● |
| 1.39 | 2.78 | 4.50 | 3.00 | 38 | 2020-1.39 | ● |
| 1.40 | 2.80 | 4.50 | 3.00 | 38 | 2020-1.40 | ● |
| 1.41 | 2.82 | 4.60 | 3.00 | 38 | 2020-1.41 | ● |
| 1.42 | 2.84 | 4.60 | 3.00 | 38 | 2020-1.42 | ● |
| 1.43 | 2.86 | 4.60 | 3.00 | 38 | 2020-1.43 | ● |
| 1.44 | 2.88 | 4.60 | 3.00 | 38 | 2020-1.44 | ● |
| 1.45 | 2.90 | 4.60 | 3.00 | 38 | 2020-1.45 | ● |
| 1.46 | 2.92 | 4.70 | 3.00 | 38 | 2020-1.46 | ● |
| 1.47 | 2.94 | 4.70 | 3.00 | 38 | 2020-1.47 | ● |
| 1.48 | 2.96 | 4.70 | 3.00 | 38 | 2020-1.48 | ● |
| 1.49 | 2.98 | 4.70 | 3.00 | 38 | 2020-1.49 | ● |
| 1.50 | 3.00 | 4.70 | 3.00 | 38 | 2020-1.50 | ● |
| 1.51 | 3.02 | 5.10 | 3.00 | 38 | 2020-1.51 | ● |
| 1.52 | 3.04 | 5.10 | 3.00 | 38 | 2020-1.52 | ● |
| 1.53 | 3.06 | 5.10 | 3.00 | 38 | 2020-1.53 | ● |
| 1.54 | 3.08 | 5.10 | 3.00 | 38 | 2020-1.54 | ● |
| 1.55 | 3.10 | 5.10 | 3.00 | 38 | 2020-1.55 | ● |
| 1.56 | 3.12 | 5.20 | 3.00 | 38 | 2020-1.56 | ● |
| 1.57 | 3.14 | 5.20 | 3.00 | 38 | 2020-1.57 | ● |
| 1.58 | 3.16 | 5.20 | 3.00 | 38 | 2020-1.58 | ● |
| 1.59 | 3.18 | 5.20 | 3.00 | 38 | 2020-1.59 | ● |
| 1.60 | 3.20 | 5.20 | 3.00 | 38 | 2020-1.60 | ● |
| 1.61 | 3.22 | 5.30 | 3.00 | 38 | 2020-1.61 | ● |
| 1.62 | 3.24 | 5.30 | 3.00 | 38 | 2020-1.62 | ● |
| 1.63 | 3.26 | 5.30 | 3.00 | 38 | 2020-1.63 | ● |
| 1.64 | 3.28 | 5.30 | 3.00 | 38 | 2020-1.64 | ● |
| 1.65 | 3.30 | 5.30 | 3.00 | 38 | 2020-1.65 | ● |
| 1.66 | 3.32 | 5.40 | 3.00 | 38 | 2020-1.66 | ● |
| 1.67 | 3.34 | 5.40 | 3.00 | 38 | 2020-1.67 | ● |
| 1.68 | 3.36 | 5.40 | 3.00 | 38 | 2020-1.68 | ● |
| 1.69 | 3.38 | 5.40 | 3.00 | 38 | 2020-1.69 | ● |
| 1.70 | 3.40 | 5.40 | 3.00 | 38 | 2020-1.70 | ● |
| 1.71 | 3.42 | 5.50 | 3.00 | 38 | 2020-1.71 | ● |
| 1.72 | 3.44 | 5.50 | 3.00 | 38 | 2020-1.72 | ● |
| 1.73 | 3.46 | 5.50 | 3.00 | 38 | 2020-1.73 | ● |
| 1.74 | 3.48 | 5.50 | 3.00 | 38 | 2020-1.74 | ● |
| 1.75 | 3.50 | 5.50 | 3.00 | 38 | 2020-1.75 | ● |
| 1.76 | 3.52 | 5.60 | 3.00 | 38 | 2020-1.76 | ● |
| 1.77 | 3.54 | 5.60 | 3.00 | 38 | 2020-1.77 | ● |
| 1.78 | 3.56 | 5.60 | 3.00 | 38 | 2020-1.78 | ● |
| 1.79 | 3.58 | 5.60 | 3.00 | 38 | 2020-1.79 | ● |
| 1.80 | 3.60 | 5.60 | 3.00 | 38 | 2020-1.80 | ● |
| 1.81 | 3.62 | 5.70 | 3.00 | 38 | 2020-1.81 | ● |
| 1.82 | 3.64 | 5.70 | 3.00 | 38 | 2020-1.82 | ● |
| 1.83 | 3.66 | 5.70 | 3.00 | 38 | 2020-1.83 | ● |
| 1.84 | 3.68 | 5.70 | 3.00 | 38 | 2020-1.84 | ● |
| 1.85 | 3.70 | 5.70 | 3.00 | 38 | 2020-1.85 | ● |
| 1.86 | 3.72 | 5.80 | 3.00 | 38 | 2020-1.86 | ● |
| 1.87 | 3.74 | 5.80 | 3.00 | 38 | 2020-1.87 | ● |
| 1.88 | 3.76 | 5.80 | 3.00 | 38 | 2020-1.88 | ● |
| 1.89 | 3.78 | 5.80 | 3.00 | 38 | 2020-1.89 | ● |
| 1.90 | 3.80 | 5.80 | 3.00 | 38 | 2020-1.90 | ● |
| 1.91 | 3.82 | 5.90 | 3.00 | 38 | 2020-1.91 | ● |
| 1.92 | 3.84 | 5.90 | 3.00 | 38 | 2020-1.92 | ● |
| 1.93 | 3.86 | 5.90 | 3.00 | 38 | 2020-1.93 | ● |
| 1.94 | 3.88 | 5.90 | 3.00 | 38 | 2020-1.94 | ● |
| 1.95 | 3.90 | 5.90 | 3.00 | 38 | 2020-1.95 | ● |
| 1.96 | 3.92 | 6.00 | 3.00 | 38 | 2020-1.96 | ● |
| 1.97 | 3.94 | 6.00 | 3.00 | 38 | 2020-1.97 | ● |
| 1.98 | 3.96 | 6.00 | 3.00 | 38 | 2020-1.98 | ● |
| 1.99 | 3.98 | 6.00 | 3.00 | 38 | 2020-1.99 | ● |
| 2.00 | 4.00 | 6.00 | 3.00 | 38 | 2020-2.00 | ● |

Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request

Micro-forets / Mikrobohrer / Micro drills | Ø1.00 - Ø2.00 mm | 2023

MICRO-Line




| MD VHM HM | λ 35° | 6xD1 | Z=2 | 130° | |
|---|---|---|---|---|---|

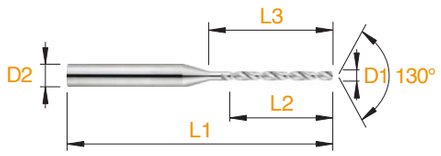
| D1 0/ -0.004 | L2 | L3 | D2 h6 | L1 | Art. N° | Z |
|---|---|---|---|---|---|---|
| 0.10 | 0.50 | 0.70 | 3.00 | 38 | 2023-0.10 | ● |
| 0.11 | 0.50 | 0.70 | 3.00 | 38 | 2023-0.11 | ● |
| 0.12 | 0.50 | 0.70 | 3.00 | 38 | 2023-0.12 | ● |
| 0.13 | 0.80 | 1.00 | 3.00 | 38 | 2023-0.13 | ● |
| 0.14 | 0.80 | 1.00 | 3.00 | 38 | 2023-0.14 | ● |
| 0.15 | 0.80 | 1.00 | 3.00 | 38 | 2023-0.15 | ● |
| 0.16 | 1.10 | 1.40 | 3.00 | 38 | 2023-0.16 | ● |
| 0.17 | 1.10 | 1.40 | 3.00 | 38 | 2023-0.17 | ● |
| 0.18 | 1.10 | 1.40 | 3.00 | 38 | 2023-0.18 | ● |
| 0.19 | 1.10 | 1.40 | 3.00 | 38 | 2023-0.19 | ● |
| 0.20 | 1.50 | 1.80 | 3.00 | 38 | 2023-0.20 | ● |
| 0.21 | 1.50 | 1.80 | 3.00 | 38 | 2023-0.21 | ● |
| 0.22 | 1.50 | 1.80 | 3.00 | 38 | 2023-0.22 | ● |
| 0.23 | 1.50 | 1.80 | 3.00 | 38 | 2023-0.23 | ● |
| 0.24 | 1.50 | 1.80 | 3.00 | 38 | 2023-0.24 | ● |
| 0.25 | 1.90 | 2.20 | 3.00 | 38 | 2023-0.25 | ● |
| 0.26 | 1.90 | 2.20 | 3.00 | 38 | 2023-0.26 | ● |
| 0.27 | 1.90 | 2.20 | 3.00 | 38 | 2023-0.27 | ● |
| 0.28 | 1.90 | 2.20 | 3.00 | 38 | 2023-0.28 | ● |
| 0.29 | 1.90 | 2.20 | 3.00 | 38 | 2023-0.29 | ● |
| 0.30 | 1.80 | 2.40 | 3.00 | 38 | 2023-0.30 | ● |
| 0.31 | 1.80 | 2.40 | 3.00 | 38 | 2023-0.31 | ● |
| 0.32 | 1.80 | 2.40 | 3.00 | 38 | 2023-0.32 | ● |
| 0.33 | 1.80 | 2.40 | 3.00 | 38 | 2023-0.33 | ● |
| 0.34 | 1.80 | 2.40 | 3.00 | 38 | 2023-0.34 | ● |
| 0.35 | 2.20 | 2.80 | 3.00 | 38 | 2023-0.35 | ● |
| 0.36 | 2.20 | 2.80 | 3.00 | 38 | 2023-0.36 | ● |
| 0.37 | 2.20 | 2.80 | 3.00 | 38 | 2023-0.37 | ● |
| 0.38 | 2.20 | 2.80 | 3.00 | 38 | 2023-0.38 | ● |
| 0.39 | 2.70 | 3.60 | 3.00 | 38 | 2023-0.39 | ● |
| 0.40 | 2.70 | 3.60 | 3.00 | 38 | 2023-0.40 | ● |
| 0.41 | 2.70 | 3.60 | 3.00 | 38 | 2023-0.41 | ● |
| 0.42 | 2.70 | 3.60 | 3.00 | 38 | 2023-0.42 | ● |
| 0.43 | 2.70 | 3.60 | 3.00 | 38 | 2023-0.43 | ● |
| 0.44 | 2.70 | 3.60 | 3.00 | 38 | 2023-0.44 | ● |
| 0.45 | 2.70 | 3.60 | 3.00 | 38 | 2023-0.45 | ● |
| 0.46 | 2.70 | 3.60 | 3.00 | 38 | 2023-0.46 | ● |
| 0.47 | 2.70 | 3.60 | 3.00 | 38 | 2023-0.47 | ● |
| 0.48 | 2.70 | 3.60 | 3.00 | 38 | 2023-0.48 | ● |
| 0.49 | 3.20 | 4.00 | 3.00 | 38 | 2023-0.49 | ● |
| 0.50 | 3.20 | 4.00 | 3.00 | 38 | 2023-0.50 | ● |
| 0.51 | 3.20 | 4.00 | 3.00 | 38 | 2023-0.51 | ● |
| 0.52 | 3.20 | 4.00 | 3.00 | 38 | 2023-0.52 | ● |
| 0.53 | 3.20 | 4.00 | 3.00 | 38 | 2023-0.53 | ● |
| 0.54 | 3.60 | 4.50 | 3.00 | 38 | 2023-0.54 | ● |
| 0.55 | 3.60 | 4.50 | 3.00 | 38 | 2023-0.55 | ● |
| 0.56 | 3.60 | 4.50 | 3.00 | 38 | 2023-0.56 | ● |
| 0.57 | 3.60 | 4.50 | 3.00 | 38 | 2023-0.57 | ● |
| 0.58 | 3.60 | 4.50 | 3.00 | 38 | 2023-0.58 | ● |
| 0.59 | 3.60 | 4.50 | 3.00 | 38 | 2023-0.59 | ● |
| 0.60 | 3.60 | 4.50 | 3.00 | 38 | 2023-0.60 | ● |
| 0.61 | 3.90 | 5.00 | 3.00 | 38 | 2023-0.61 | ● |
| 0.62 | 3.90 | 5.00 | 3.00 | 38 | 2023-0.62 | ● |
| 0.63 | 3.90 | 5.00 | 3.00 | 38 | 2023-0.63 | ● |
| 0.64 | 3.90 | 5.00 | 3.00 | 38 | 2023-0.64 | ● |
| 0.65 | 3.90 | 5.00 | 3.00 | 38 | 2023-0.65 | ● |
| 0.66 | 3.90 | 5.00 | 3.00 | 38 | 2023-0.66 | ● |
| 0.67 | 3.90 | 5.00 | 3.00 | 38 | 2023-0.67 | ● |
| 0.68 | 4.50 | 5.60 | 3.00 | 38 | 2023-0.68 | ● |
| 0.69 | 4.50 | 5.60 | 3.00 | 38 | 2023-0.69 | ● |
| 0.70 | 4.50 | 5.60 | 3.00 | 38 | 2023-0.70 | ● |
| 0.71 | 4.50 | 5.60 | 3.00 | 38 | 2023-0.71 | ● |
| 0.72 | 4.50 | 5.60 | 3.00 | 38 | 2023-0.72 | ● |
| 0.73 | 4.50 | 5.60 | 3.00 | 38 | 2023-0.73 | ● |
| 0.74 | 4.50 | 5.60 | 3.00 | 38 | 2023-0.74 | ● |
| 0.75 | 4.50 | 5.60 | 3.00 | 38 | 2023-0.75 | ● |
| 0.76 | 5.00 | 6.30 | 3.00 | 38 | 2023-0.76 | ● |
| 0.77 | 5.00 | 6.30 | 3.00 | 38 | 2023-0.77 | ● |
| 0.78 | 5.00 | 6.30 | 3.00 | 38 | 2023-0.78 | ● |
| 0.79 | 5.00 | 6.30 | 3.00 | 38 | 2023-0.79 | ● |
| 0.80 | 5.00 | 6.30 | 3.00 | 38 | 2023-0.80 | ● |
| 0.81 | 5.00 | 6.30 | 3.00 | 38 | 2023-0.81 | ● |
| 0.82 | 5.00 | 6.30 | 3.00 | 38 | 2023-0.82 | ● |
| 0.83 | 5.00 | 6.30 | 3.00 | 38 | 2023-0.83 | ● |
| 0.84 | 5.00 | 6.30 | 3.00 | 38 | 2023-0.84 | ● |
| 0.85 | 5.00 | 6.30 | 3.00 | 38 | 2023-0.85 | ● |
| 0.86 | 5.70 | 7.10 | 3.00 | 38 | 2023-0.86 | ● |
| 0.87 | 5.70 | 7.10 | 3.00 | 38 | 2023-0.87 | ● |
| 0.88 | 5.70 | 7.10 | 3.00 | 38 | 2023-0.88 | ● |
| 0.89 | 5.70 | 7.10 | 3.00 | 38 | 2023-0.89 | ● |
| 0.90 | 5.70 | 7.10 | 3.00 | 38 | 2023-0.90 | ● |
| 0.91 | 5.70 | 7.10 | 3.00 | 38 | 2023-0.91 | ● |
| 0.92 | 5.70 | 7.10 | 3.00 | 38 | 2023-0.92 | ● |
| 0.93 | 5.70 | 7.10 | 3.00 | 38 | 2023-0.93 | ● |
| 0.94 | 5.70 | 7.10 | 3.00 | 38 | 2023-0.94 | ● |
| 0.95 | 5.70 | 7.10 | 3.00 | 38 | 2023-0.95 | ● |
| 0.96 | 6.50 | 8.00 | 3.00 | 38 | 2023-0.96 | ● |
| 0.97 | 6.50 | 8.00 | 3.00 | 38 | 2023-0.97 | ● |
| 0.98 | 6.50 | 8.00 | 3.00 | 38 | 2023-0.98 | ● |
| 0.99 | 6.50 | 8.00 | 3.00 | 38 | 2023-0.99 | ● |
| 1.00 | 6.50 | 8.00 | 3.00 | 38 | 2023-1.00 | ● |
| 1.01 | 6.50 | 8.00 | 3.00 | 38 | 2023-1.01 | ● |
| 1.02 | 6.50 | 8.00 | 3.00 | 38 | 2023-1.02 | ● |
| 1.03 | 6.50 | 8.00 | 3.00 | 38 | 2023-1.03 | ● |
| 1.04 | 6.50 | 8.00 | 3.00 | 38 | 2023-1.04 | ● |
| 1.05 | 6.50 | 8.00 | 3.00 | 38 | 2023-1.05 | ● |
| 1.06 | 7.30 | 9.00 | 3.00 | 38 | 2023-1.06 | ● |
| 1.07 | 7.30 | 9.00 | 3.00 | 38 | 2023-1.07 | ● |
| 1.08 | 7.30 | 9.00 | 3.00 | 38 | 2023-1.08 | ● |
| 1.09 | 7.30 | 9.00 | 3.00 | 38 | 2023-1.09 | ● |
| 1.10 | 7.30 | 9.00 | 3.00 | 38 | 2023-1.10 | ● |
| 1.11 | 7.30 | 9.00 | 3.00 | 38 | 2023-1.11 | ● |
| 1.12 | 7.30 | 9.00 | 3.00 | 38 | 2023-1.12 | ● |
| 1.13 | 7.30 | 9.00 | 3.00 | 38 | 2023-1.13 | ● |
| 1.14 | 7.30 | 9.00 | 3.00 | 38 | 2023-1.14 | ● |
| 1.15 | 7.30 | 9.00 | 3.00 | 38 | 2023-1.15 | ● |
| 1.16 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.16 | ● |
| 1.17 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.17 | ● |
| 1.18 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.18 | ● |
| 1.19 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.19 | ● |
| 1.20 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.20 | ● |
| 1.21 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.21 | ● |
| 1.22 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.22 | ● |
| 1.23 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.23 | ● |
| 1.24 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.24 | ● |
| 1.25 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.25 | ● |
| 1.26 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.26 | ● |
| 1.27 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.27 | ● |
| 1.28 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.28 | ● |
| 1.29 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.29 | ● |
| 1.30 | 8.20 | 10.00 | 3.00 | 38 | 2023-1.30 | ● |
| 1.31 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.31 | ● |
| 1.32 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.32 | ● |
| 1.33 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.33 | ● |
| 1.34 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.34 | ● |
| 1.35 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.35 | ● |
| 1.36 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.36 | ● |
| 1.37 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.37 | ● |
| 1.38 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.38 | ● |
| 1.39 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.39 | ● |
| 1.40 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.40 | ● |
| 1.41 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.41 | ● |
| 1.42 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.42 | ● |
| 1.43 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.43 | ● |
| 1.44 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.44 | ● |
| 1.45 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.45 | ● |
| 1.46 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.46 | ● |
| 1.47 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.47 | ● |
| 1.48 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.48 | ● |
| 1.49 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.49 | ● |
| 1.50 | 9.20 | 11.20 | 3.00 | 38 | 2023-1.50 | ● |
| 1.51 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.51 | ● |
| 1.52 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.52 | ● |
| 1.53 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.53 | ● |
| 1.54 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.54 | ● |
| 1.55 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.55 | ● |
| 1.56 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.56 | ● |
| 1.57 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.57 | ● |
| 1.58 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.58 | ● |
| 1.59 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.59 | ● |
| 1.60 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.60 | ● |
| 1.61 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.61 | ● |
| 1.62 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.62 | ● |
| 1.63 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.63 | ● |
| 1.64 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.64 | ● |
| 1.65 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.65 | ● |
| 1.66 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.66 | ● |
| 1.67 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.67 | ● |
| 1.68 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.68 | ● |
| 1.69 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.69 | ● |
| 1.70 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.70 | ● |
| 1.71 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.71 | ● |
| 1.72 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.72 | ● |
| 1.73 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.73 | ● |
| 1.74 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.74 | ● |
| 1.75 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.75 | ● |
| 1.76 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.76 | ● |
| 1.77 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.77 | ● |
| 1.78 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.78 | ● |
| 1.79 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.79 | ● |
| 1.80 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.80 | ● |
| 1.81 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.81 | ● |
| 1.82 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.82 | ● |
| 1.83 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.83 | ● |
| 1.84 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.84 | ● |
| 1.85 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.85 | ● |
| 1.86 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.86 | ● |
| 1.87 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.87 | ● |
| 1.88 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.88 | ● |
| 1.89 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.89 | ● |
| 1.90 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.90 | ● |
| 1.91 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.91 | ● |
| 1.92 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.92 | ● |
| 1.93 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.93 | ● |
| 1.94 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.94 | ● |
| 1.95 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.95 | ● |
| 1.96 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.96 | ● |
| 1.97 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.97 | ● |
| 1.98 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.98 | ● |
| 1.99 | 11.20 | 13.40 | 3.00 | 38 | 2023-1.99 | ● |
| 2.00 | 11.20 | 13.40 | 3.00 | 38 | 2023-2.00 | ● |

| D1 0/ -0.004 | L2 | L3 | D2 h6 | L1 | Art. N° | z |
|---|---|---|---|---|---|---|
| 2.01 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.01 | ● |
| 2.02 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.02 | ● |
| 2.03 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.03 | ● |
| 2.04 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.04 | ● |
| 2.05 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.05 | ● |
| 2.06 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.06 | ● |
| 2.07 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.07 | ● |
| 2.08 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.08 | ● |
| 2.09 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.09 | ● |
| 2.10 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.10 | ● |
| 2.11 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.11 | ● |
| 2.12 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.12 | ● |
| 2.13 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.13 | ● |
| 2.14 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.14 | ● |
| 2.15 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.15 | ● |
| 2.16 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.16 | ● |
| 2.17 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.17 | ● |
| 2.18 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.18 | ● |
| 2.19 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.19 | ● |
| 2.20 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.20 | ● |
| 2.21 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.21 | ● |
| 2.22 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.22 | ● |
| 2.23 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.23 | ● |
| 2.24 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.24 | ● |
| 2.25 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.25 | ● |
| 2.26 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.26 | ● |
| 2.27 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.27 | ● |
| 2.28 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.28 | ● |
| 2.29 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.29 | ● |
| 2.30 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.30 | ● |
| 2.31 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.31 | ● |
| 2.32 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.32 | ● |
| 2.33 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.33 | ● |
| 2.34 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.34 | ● |
| 2.35 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.35 | ● |
| 2.36 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.36 | ● |
| 2.37 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.37 | ● |
| 2.38 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.38 | ● |
| 2.39 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.39 | ● |
| 2.40 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.40 | ● |
| 2.41 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.41 | ● |
| 2.42 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.42 | ● |
| 2.43 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.43 | ● |
| 2.44 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.44 | ● |
| 2.45 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.45 | ● |
| 2.46 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.46 | ● |
| 2.47 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.47 | ● |
| 2.48 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.48 | ● |
| 2.49 | 12.50 | 14.00 | 3.00 | 38 | 2023-2.49 | ● |
| 2.50 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.50 | ● |

| D1 0/ -0.004 | L2 | L3 | D2 h6 | L1 | Art. N° | z |
|---|---|---|---|---|---|---|
| 2.51 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.51 | ● |
| 2.52 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.52 | ● |
| 2.53 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.53 | ● |
| 2.54 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.54 | ● |
| 2.55 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.55 | ● |
| 2.56 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.56 | ● |
| 2.57 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.57 | ● |
| 2.58 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.58 | ● |
| 2.59 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.59 | ● |
| 2.60 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.60 | ● |
| 2.61 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.61 | ● |
| 2.62 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.62 | ● |
| 2.63 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.63 | ● |
| 2.64 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.64 | ● |
| 2.65 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.65 | ● |
| 2.66 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.66 | ● |
| 2.67 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.67 | ● |
| 2.68 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.68 | ● |
| 2.69 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.69 | ● |
| 2.70 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.70 | ● |
| 2.71 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.71 | ● |
| 2.72 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.72 | ● |
| 2.73 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.73 | ● |
| 2.74 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.74 | ● |
| 2.75 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.75 | ● |
| 2.76 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.76 | ● |
| 2.77 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.77 | ● |
| 2.78 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.78 | ● |
| 2.79 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.79 | ● |
| 2.80 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.80 | ● |
| 2.81 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.81 | ● |
| 2.82 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.82 | ● |
| 2.83 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.83 | ● |
| 2.84 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.84 | ● |
| 2.85 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.85 | ● |
| 2.86 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.86 | ● |
| 2.87 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.87 | ● |
| 2.88 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.88 | ● |
| 2.89 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.89 | ● |
| 2.90 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.90 | ● |
| 2.91 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.91 | ● |
| 2.92 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.92 | ● |
| 2.93 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.93 | ● |
| 2.94 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.94 | ● |
| 2.95 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.95 | ● |
| 2.96 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.96 | ● |
| 2.97 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.97 | ● |
| 2.98 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.98 | ● |
| 2.99 | 14.00 | 17.00 | 3.00 | 38 | 2023-2.99 | ● |
| 3.00 | 14.00 | 17.00 | 3.00 | 38 | 2023-3.00 | ● |








| MD VHM HM | λ 25° | Z=2 | 12xD1 | 130° | |
|---|---|---|---|---|---|

| D1 h6 | L2 | L3 | D2 h6 | L1 | Art. N° | z |
|---|---|---|---|---|---|---|
| 0.20 | 2.40 | 3.50 | 3.00 | 38 | 2026-0.20 | ● |
| 0.21 | 2.50 | 3.50 | 3.00 | 38 | 2026-0.21 | ● |
| 0.22 | 2.70 | 3.50 | 3.00 | 38 | 2026-0.22 | ● |
| 0.23 | 2.80 | 3.50 | 3.00 | 38 | 2026-0.23 | ● |
| 0.24 | 2.90 | 4.00 | 3.00 | 38 | 2026-0.24 | ● |
| 0.25 | 3.00 | 4.00 | 3.00 | 38 | 2026-0.25 | ● |
| 0.26 | 3.10 | 4.00 | 3.00 | 38 | 2026-0.26 | ● |
| 0.27 | 3.30 | 4.00 | 3.00 | 38 | 2026-0.27 | ● |
| 0.28 | 3.40 | 4.50 | 3.00 | 38 | 2026-0.28 | ● |
| 0.29 | 3.50 | 4.50 | 3.00 | 38 | 2026-0.29 | ● |
| 0.30 | 3.60 | 4.50 | 3.00 | 38 | 2026-0.30 | ● |
| 0.31 | 3.70 | 4.50 | 3.00 | 38 | 2026-0.31 | ● |
| 0.32 | 3.90 | 5.00 | 3.00 | 38 | 2026-0.32 | ● |
| 0.33 | 4.00 | 5.00 | 3.00 | 38 | 2026-0.33 | ● |
| 0.34 | 4.10 | 5.00 | 3.00 | 38 | 2026-0.34 | ● |
| 0.35 | 4.20 | 5.00 | 3.00 | 38 | 2026-0.35 | ● |
| 0.36 | 4.30 | 5.50 | 3.00 | 38 | 2026-0.36 | ● |
| 0.37 | 4.50 | 5.50 | 3.00 | 38 | 2026-0.37 | ● |
| 0.38 | 4.60 | 5.50 | 3.00 | 38 | 2026-0.38 | ● |
| 0.39 | 4.70 | 5.50 | 3.00 | 38 | 2026-0.39 | ● |
| 0.40 | 4.80 | 6.00 | 3.00 | 38 | 2026-0.40 | ● |
| 0.41 | 4.90 | 6.00 | 3.00 | 38 | 2026-0.41 | ● |
| 0.42 | 5.10 | 6.00 | 3.00 | 38 | 2026-0.42 | ● |
| 0.43 | 5.20 | 6.00 | 3.00 | 38 | 2026-0.43 | ● |
| 0.44 | 5.30 | 6.50 | 3.00 | 38 | 2026-0.44 | ● |
| 0.45 | 5.40 | 6.50 | 3.00 | 38 | 2026-0.45 | ● |
| 0.46 | 5.50 | 6.50 | 3.00 | 38 | 2026-0.46 | ● |
| 0.47 | 5.70 | 6.50 | 3.00 | 38 | 2026-0.47 | ● |
| 0.48 | 5.80 | 7.00 | 3.00 | 38 | 2026-0.48 | ● |
| 0.49 | 5.90 | 7.00 | 3.00 | 38 | 2026-0.49 | ● |
| 0.50 | 6.00 | 7.00 | 3.00 | 38 | 2026-0.50 | ● |
| 0.51 | 6.10 | 7.00 | 3.00 | 38 | 2026-0.51 | ● |
| 0.52 | 6.30 | 7.50 | 3.00 | 38 | 2026-0.52 | ● |
| 0.53 | 6.40 | 7.50 | 3.00 | 38 | 2026-0.53 | ● |
| 0.54 | 6.50 | 7.50 | 3.00 | 38 | 2026-0.54 | ● |
| 0.55 | 6.60 | 7.50 | 3.00 | 38 | 2026-0.55 | ● |
| 0.56 | 6.70 | 8.00 | 3.00 | 38 | 2026-0.56 | ● |
| 0.57 | 6.90 | 8.00 | 3.00 | 38 | 2026-0.57 | ● |
| 0.58 | 7.00 | 8.00 | 3.00 | 38 | 2026-0.58 | ● |

| D1 h6 | L2 | L3 | D2 h6 | L1 | Art. N° | z |
|---|---|---|---|---|---|---|
| 0.59 | 7.10 | 8.00 | 3.00 | 38 | 2026-0.59 | ● |
| 0.60 | 7.20 | 9.00 | 3.00 | 38 | 2026-0.60 | ● |
| 0.61 | 7.30 | 9.00 | 3.00 | 38 | 2026-0.61 | ● |
| 0.62 | 7.50 | 9.00 | 3.00 | 38 | 2026-0.62 | ● |
| 0.63 | 7.60 | 9.00 | 3.00 | 38 | 2026-0.63 | ● |
| 0.64 | 7.70 | 9.50 | 3.00 | 38 | 2026-0.64 | ● |
| 0.65 | 7.80 | 9.50 | 3.00 | 38 | 2026-0.65 | ● |
| 0.66 | 7.90 | 9.50 | 3.00 | 38 | 2026-0.66 | ● |
| 0.67 | 8.10 | 9.50 | 3.00 | 38 | 2026-0.67 | ● |
| 0.68 | 8.20 | 10.00 | 3.00 | 38 | 2026-0.68 | ● |
| 0.69 | 8.30 | 10.00 | 3.00 | 38 | 2026-0.69 | ● |
| 0.70 | 8.40 | 10.00 | 3.00 | 38 | 2026-0.70 | ● |
| 0.71 | 8.50 | 10.00 | 3.00 | 38 | 2026-0.71 | ● |
| 0.72 | 8.70 | 10.50 | 3.00 | 38 | 2026-0.72 | ● |
| 0.73 | 8.80 | 10.50 | 3.00 | 38 | 2026-0.73 | ● |
| 0.74 | 8.90 | 10.50 | 3.00 | 38 | 2026-0.74 | ● |
| 0.75 | 9.00 | 10.50 | 3.00 | 38 | 2026-0.75 | ● |
| 0.76 | 9.10 | 11.00 | 3.00 | 38 | 2026-0.76 | ● |
| 0.77 | 9.30 | 11.00 | 3.00 | 38 | 2026-0.77 | ● |
| 0.78 | 9.40 | 11.00 | 3.00 | 38 | 2026-0.78 | ● |
| 0.79 | 9.50 | 11.00 | 3.00 | 38 | 2026-0.79 | ● |
| 0.80 | 9.60 | 11.50 | 3.00 | 38 | 2026-0.80 | ● |
| 0.81 | 9.70 | 11.50 | 3.00 | 38 | 2026-0.81 | ● |
| 0.82 | 9.90 | 11.50 | 3.00 | 38 | 2026-0.82 | ● |
| 0.83 | 10.00 | 11.50 | 3.00 | 38 | 2026-0.83 | ● |
| 0.84 | 10.10 | 12.00 | 3.00 | 38 | 2026-0.84 | ● |
| 0.85 | 10.20 | 12.00 | 3.00 | 38 | 2026-0.85 | ● |
| 0.86 | 10.30 | 12.00 | 3.00 | 38 | 2026-0.86 | ● |
| 0.87 | 10.50 | 12.00 | 3.00 | 38 | 2026-0.87 | ● |
| 0.88 | 10.60 | 12.50 | 3.00 | 38 | 2026-0.88 | ● |
| 0.89 | 10.70 | 12.50 | 3.00 | 38 | 2026-0.89 | ● |
| 0.90 | 10.80 | 12.50 | 3.00 | 38 | 2026-0.90 | ● |
| 0.91 | 10.90 | 12.50 | 3.00 | 38 | 2026-0.91 | ● |
| 0.92 | 11.10 | 13.00 | 3.00 | 38 | 2026-0.92 | ● |
| 0.93 | 11.20 | 13.00 | 3.00 | 38 | 2026-0.93 | ● |
| 0.94 | 11.30 | 13.00 | 3.00 | 38 | 2026-0.94 | ● |
| 0.95 | 11.40 | 13.00 | 3.00 | 38 | 2026-0.95 | ● |
| 0.96 | 11.50 | 13.50 | 3.00 | 38 | 2026-0.96 | ● |
| 0.97 | 11.70 | 13.50 | 3.00 | 38 | 2026-0.97 | ● |
| 0.98 | 11.80 | 13.50 | 3.00 | 38 | 2026-0.98 | ● |
| 0.99 | 11.90 | 13.50 | 3.00 | 38 | 2026-0.99 | ● |
| 1.00 | 12.00 | 14.50 | 3.00 | 38 | 2026-1.00 | ● |
| 1.01 | 12.10 | 14.50 | 3.00 | 38 | 2026-1.01 | ● |
| 1.02 | 12.30 | 14.50 | 3.00 | 38 | 2026-1.02 | ● |
| 1.03 | 12.40 | 14.50 | 3.00 | 38 | 2026-1.03 | ● |
| 1.04 | 12.50 | 15.00 | 3.00 | 38 | 2026-1.04 | ● |
| 1.05 | 12.60 | 15.00 | 3.00 | 38 | 2026-1.05 | ● |
| 1.06 | 12.70 | 15.00 | 3.00 | 38 | 2026-1.06 | ● |
| 1.07 | 12.90 | 15.00 | 3.00 | 38 | 2026-1.07 | ● |
| 1.08 | 13.00 | 15.50 | 3.00 | 38 | 2026-1.08 | ● |
| 1.09 | 13.10 | 15.50 | 3.00 | 38 | 2026-1.09 | ● |

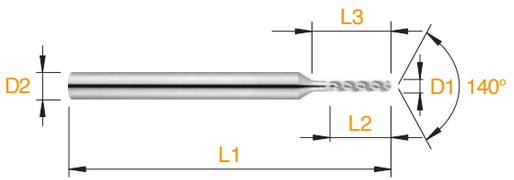
Autre revêtement sur demande/ Andere Beschichtung auf Anfrage / Other coating on request

| D1 h6 | L2 | L3 | D2 h6 | L1 | Art. N° | z |
|---|---|---|---|---|---|---|
| 1.10 | 13.20 | 15.50 | 3.00 | 38 | 2026-1.10 | ● |
| 1.11 | 13.30 | 15.50 | 3.00 | 38 | 2026-1.11 | ● |
| 1.12 | 13.50 | 16.00 | 3.00 | 38 | 2026-1.12 | ● |
| 1.13 | 13.60 | 16.00 | 3.00 | 38 | 2026-1.13 | ● |
| 1.14 | 13.70 | 16.00 | 3.00 | 38 | 2026-1.14 | ● |
| 1.15 | 13.80 | 16.00 | 3.00 | 38 | 2026-1.15 | ● |
| 1.16 | 13.90 | 16.50 | 3.00 | 38 | 2026-1.16 | ● |
| 1.17 | 14.10 | 16.50 | 3.00 | 38 | 2026-1.17 | ● |
| 1.18 | 14.20 | 16.50 | 3.00 | 38 | 2026-1.18 | ● |
| 1.19 | 14.30 | 16.50 | 3.00 | 38 | 2026-1.19 | ● |
| 1.20 | 14.40 | 17.00 | 3.00 | 38 | 2026-1.20 | ● |
| 1.21 | 14.50 | 17.00 | 3.00 | 38 | 2026-1.21 | ● |
| 1.22 | 14.70 | 17.00 | 3.00 | 38 | 2026-1.22 | ● |
| 1.23 | 14.80 | 17.00 | 3.00 | 38 | 2026-1.23 | ● |
| 1.24 | 14.90 | 17.50 | 3.00 | 38 | 2026-1.24 | ● |
| 1.25 | 15.00 | 17.50 | 3.00 | 38 | 2026-1.25 | ● |
| 1.26 | 15.10 | 17.50 | 3.00 | 50 | 2026-1.26 | ● |
| 1.27 | 15.30 | 17.50 | 3.00 | 50 | 2026-1.27 | ● |
| 1.28 | 15.40 | 18.00 | 3.00 | 50 | 2026-1.28 | ● |
| 1.29 | 15.50 | 18.00 | 3.00 | 50 | 2026-1.29 | ● |
| 1.30 | 15.60 | 18.00 | 3.00 | 50 | 2026-1.30 | ● |
| 1.31 | 15.70 | 18.00 | 3.00 | 50 | 2026-1.31 | ● |
| 1.32 | 15.90 | 18.50 | 3.00 | 50 | 2026-1.32 | ● |
| 1.33 | 16.00 | 18.50 | 3.00 | 50 | 2026-1.33 | ● |
| 1.34 | 16.10 | 18.50 | 3.00 | 50 | 2026-1.34 | ● |
| 1.35 | 16.20 | 18.50 | 3.00 | 50 | 2026-1.35 | ● |
| 1.36 | 16.30 | 19.00 | 3.00 | 50 | 2026-1.36 | ● |
| 1.37 | 16.50 | 19.00 | 3.00 | 50 | 2026-1.37 | ● |
| 1.38 | 16.60 | 19.00 | 3.00 | 50 | 2026-1.38 | ● |
| 1.39 | 16.70 | 19.00 | 3.00 | 50 | 2026-1.39 | ● |
| 1.40 | 16.80 | 19.50 | 3.00 | 50 | 2026-1.40 | ● |
| 1.41 | 16.90 | 19.50 | 3.00 | 50 | 2026-1.41 | ● |
| 1.42 | 17.10 | 19.50 | 3.00 | 50 | 2026-1.42 | ● |
| 1.43 | 17.20 | 19.50 | 3.00 | 50 | 2026-1.43 | ● |
| 1.44 | 17.30 | 20.00 | 3.00 | 50 | 2026-1.44 | ● |
| 1.45 | 17.40 | 20.00 | 3.00 | 50 | 2026-1.45 | ● |
| 1.46 | 17.50 | 20.00 | 3.00 | 50 | 2026-1.46 | ● |
| 1.47 | 17.70 | 20.00 | 3.00 | 50 | 2026-1.47 | ● |
| 1.48 | 17.80 | 20.50 | 3.00 | 50 | 2026-1.48 | ● |
| 1.49 | 17.90 | 20.50 | 3.00 | 50 | 2026-1.49 | ● |
| 1.50 | 18.00 | 21.00 | 3.00 | 50 | 2026-1.50 | ● |
| 1.51 | 18.10 | 21.00 | 3.00 | 50 | 2026-1.51 | ● |
| 1.52 | 18.30 | 21.00 | 3.00 | 50 | 2026-1.52 | ● |
| 1.53 | 18.40 | 21.00 | 3.00 | 50 | 2026-1.53 | ● |
| 1.54 | 18.50 | 21.50 | 3.00 | 50 | 2026-1.54 | ● |
| 1.55 | 18.60 | 21.50 | 3.00 | 50 | 2026-1.55 | ● |
| 1.56 | 18.70 | 21.50 | 3.00 | 50 | 2026-1.56 | ● |
| 1.57 | 18.90 | 21.50 | 3.00 | 50 | 2026-1.57 | ● |
| 1.58 | 19.00 | 22.00 | 3.00 | 50 | 2026-1.58 | ● |
| 1.59 | 19.10 | 22.00 | 3.00 | 50 | 2026-1.59 | ● |
| 1.60 | 19.20 | 22.00 | 3.00 | 50 | 2026-1.60 | ● |

| D1 h6 | L2 | L3 | D2 h6 | L1 | Art. N° | z |
|---|---|---|---|---|---|---|
| 1.61 | 19.30 | 22.00 | 3.00 | 50 | 2026-1.61 | ● |
| 1.62 | 19.40 | 22.50 | 3.00 | 50 | 2026-1.62 | ● |
| 1.63 | 19.60 | 22.50 | 3.00 | 50 | 2026-1.63 | ● |
| 1.64 | 19.70 | 22.50 | 3.00 | 50 | 2026-1.64 | ● |
| 1.65 | 19.80 | 22.50 | 3.00 | 50 | 2026-1.65 | ● |
| 1.66 | 19.90 | 23.00 | 3.00 | 50 | 2026-1.66 | ● |
| 1.67 | 20.10 | 23.00 | 3.00 | 50 | 2026-1.67 | ● |
| 1.68 | 20.20 | 23.00 | 3.00 | 50 | 2026-1.68 | ● |
| 1.69 | 20.30 | 23.00 | 3.00 | 50 | 2026-1.69 | ● |
| 1.70 | 20.40 | 23.50 | 3.00 | 50 | 2026-1.70 | ● |
| 1.71 | 20.50 | 23.50 | 3.00 | 50 | 2026-1.71 | ● |
| 1.72 | 20.70 | 23.50 | 3.00 | 50 | 2026-1.72 | ● |
| 1.73 | 20.80 | 23.50 | 3.00 | 50 | 2026-1.73 | ● |
| 1.74 | 20.90 | 24.00 | 3.00 | 50 | 2026-1.74 | ● |
| 1.75 | 21.00 | 24.00 | 3.00 | 50 | 2026-1.75 | ● |
| 1.76 | 21.10 | 24.00 | 3.00 | 50 | 2026-1.76 | ● |
| 1.77 | 21.30 | 24.00 | 3.00 | 50 | 2026-1.77 | ● |
| 1.78 | 21.40 | 24.50 | 3.00 | 50 | 2026-1.78 | ● |
| 1.79 | 21.50 | 24.50 | 3.00 | 50 | 2026-1.79 | ● |
| 1.80 | 21.60 | 25.00 | 3.00 | 50 | 2026-1.80 | ● |
| 1.81 | 21.70 | 25.00 | 3.00 | 50 | 2026-1.81 | ● |
| 1.82 | 21.90 | 25.00 | 3.00 | 50 | 2026-1.82 | ● |
| 1.83 | 22.00 | 25.00 | 3.00 | 50 | 2026-1.83 | ● |
| 1.84 | 22.10 | 25.50 | 3.00 | 50 | 2026-1.84 | ● |
| 1.85 | 22.20 | 25.50 | 3.00 | 50 | 2026-1.85 | ● |
| 1.86 | 22.30 | 25.50 | 3.00 | 50 | 2026-1.86 | ● |
| 1.87 | 22.50 | 25.50 | 3.00 | 50 | 2026-1.87 | ● |
| 1.88 | 22.60 | 26.00 | 3.00 | 50 | 2026-1.88 | ● |
| 1.89 | 22.70 | 26.00 | 3.00 | 50 | 2026-1.89 | ● |
| 1.90 | 22.80 | 26.00 | 3.00 | 50 | 2026-1.90 | ● |
| 1.91 | 22.90 | 26.00 | 3.00 | 50 | 2026-1.91 | ● |
| 1.92 | 23.10 | 26.50 | 3.00 | 50 | 2026-1.92 | ● |
| 1.93 | 23.20 | 26.50 | 3.00 | 50 | 2026-1.93 | ● |
| 1.94 | 23.30 | 26.50 | 3.00 | 50 | 2026-1.94 | ● |
| 1.95 | 23.40 | 26.50 | 3.00 | 50 | 2026-1.95 | ● |
| 1.96 | 23.50 | 27.00 | 3.00 | 50 | 2026-1.96 | ● |
| 1.97 | 23.70 | 27.00 | 3.00 | 50 | 2026-1.97 | ● |
| 1.98 | 23.80 | 27.00 | 3.00 | 50 | 2026-1.98 | ● |
| 1.99 | 23.90 | 27.00 | 3.00 | 50 | 2026-1.99 | ● |
| 2.00 | 24.00 | 27.00 | 3.00 | 50 | 2026-2.00 | ● |








| MD VHM HM | λ 35° | 5xD1 | Z=3 | 140° |
|---|---|---|---|---|

| D1 h6 | L2 | L3 | D2 h6 | L1 | Art. N° | z |
|---|---|---|---|---|---|---|
| 0.20 | 1.00 | 1.50 | 3.00 | 38 | 2030-0.20 | ● |
| 0.21 | 1.05 | 1.50 | 3.00 | 38 | 2030-0.21 | ● |
| 0.22 | 1.10 | 1.60 | 3.00 | 38 | 2030-0.22 | ● |
| 0.23 | 1.15 | 1.60 | 3.00 | 38 | 2030-0.23 | ● |
| 0.24 | 1.20 | 1.70 | 3.00 | 38 | 2030-0.24 | ● |
| 0.25 | 1.25 | 1.70 | 3.00 | 38 | 2030-0.25 | ● |
| 0.26 | 1.30 | 1.80 | 3.00 | 38 | 2030-0.26 | ● |
| 0.27 | 1.35 | 1.80 | 3.00 | 38 | 2030-0.27 | ● |
| 0.28 | 1.40 | 1.90 | 3.00 | 38 | 2030-0.28 | ● |
| 0.29 | 1.45 | 1.90 | 3.00 | 38 | 2030-0.29 | ● |
| 0.30 | 1.50 | 2.00 | 3.00 | 38 | 2030-0.30 | ● |
| 0.31 | 1.55 | 2.00 | 3.00 | 38 | 2030-0.31 | ● |
| 0.32 | 1.60 | 2.10 | 3.00 | 38 | 2030-0.32 | ● |
| 0.33 | 1.65 | 2.10 | 3.00 | 38 | 2030-0.33 | ● |
| 0.34 | 1.70 | 2.20 | 3.00 | 38 | 2030-0.34 | ● |
| 0.35 | 1.75 | 2.20 | 3.00 | 38 | 2030-0.35 | ● |
| 0.36 | 1.80 | 2.30 | 3.00 | 38 | 2030-0.36 | ● |
| 0.37 | 1.85 | 2.30 | 3.00 | 38 | 2030-0.37 | ● |
| 0.38 | 1.90 | 2.40 | 3.00 | 38 | 2030-0.38 | ● |
| 0.39 | 1.95 | 2.40 | 3.00 | 38 | 2030-0.39 | ● |
| 0.40 | 2.00 | 2.50 | 3.00 | 38 | 2030-0.40 | ● |
| 0.41 | 2.05 | 2.50 | 3.00 | 38 | 2030-0.41 | ● |
| 0.42 | 2.10 | 2.60 | 3.00 | 38 | 2030-0.42 | ● |
| 0.43 | 2.15 | 2.60 | 3.00 | 38 | 2030-0.43 | ● |
| 0.44 | 2.20 | 2.70 | 3.00 | 38 | 2030-0.44 | ● |
| 0.45 | 2.25 | 2.70 | 3.00 | 38 | 2030-0.45 | ● |
| 0.46 | 2.30 | 2.80 | 3.00 | 38 | 2030-0.46 | ● |
| 0.47 | 2.35 | 2.80 | 3.00 | 38 | 2030-0.47 | ● |
| 0.48 | 2.40 | 2.90 | 3.00 | 38 | 2030-0.48 | ● |
| 0.49 | 2.45 | 2.90 | 3.00 | 38 | 2030-0.49 | ● |
| 0.50 | 2.50 | 3.00 | 3.00 | 38 | 2030-0.50 | ● |
| 0.51 | 2.55 | 3.00 | 3.00 | 38 | 2030-0.51 | ● |
| 0.52 | 2.60 | 3.10 | 3.00 | 38 | 2030-0.52 | ● |
| 0.53 | 2.65 | 3.10 | 3.00 | 38 | 2030-0.53 | ● |
| 0.54 | 2.70 | 3.20 | 3.00 | 38 | 2030-0.54 | ● |
| 0.55 | 2.75 | 3.20 | 3.00 | 38 | 2030-0.55 | ● |
| 0.56 | 2.80 | 3.30 | 3.00 | 38 | 2030-0.56 | ● |
| 0.57 | 2.85 | 3.30 | 3.00 | 38 | 2030-0.57 | ● |
| 0.58 | 2.90 | 3.40 | 3.00 | 38 | 2030-0.58 | ● |

| D1 h6 | L2 | L3 | D2 h6 | L1 | Art. N° | z |
|---|---|---|---|---|---|---|
| 0.59 | 2.95 | 3.40 | 3.00 | 38 | 2030-0.59 | ● |
| 0.60 | 3.00 | 3.50 | 3.00 | 38 | 2030-0.60 | ● |
| 0.61 | 3.05 | 3.50 | 3.00 | 38 | 2030-0.61 | ● |
| 0.62 | 3.10 | 3.60 | 3.00 | 38 | 2030-0.62 | ● |
| 0.63 | 3.15 | 3.60 | 3.00 | 38 | 2030-0.63 | ● |
| 0.64 | 3.20 | 3.70 | 3.00 | 38 | 2030-0.64 | ● |
| 0.65 | 3.25 | 3.70 | 3.00 | 38 | 2030-0.65 | ● |
| 0.66 | 3.30 | 3.80 | 3.00 | 38 | 2030-0.66 | ● |
| 0.67 | 3.35 | 3.80 | 3.00 | 38 | 2030-0.67 | ● |
| 0.68 | 3.40 | 3.90 | 3.00 | 38 | 2030-0.68 | ● |
| 0.69 | 3.45 | 3.90 | 3.00 | 38 | 2030-0.69 | ● |
| 0.70 | 3.50 | 4.00 | 3.00 | 38 | 2030-0.70 | ● |
| 0.71 | 3.55 | 4.00 | 3.00 | 38 | 2030-0.71 | ● |
| 0.72 | 3.60 | 4.10 | 3.00 | 38 | 2030-0.72 | ● |
| 0.73 | 3.65 | 4.10 | 3.00 | 38 | 2030-0.73 | ● |
| 0.74 | 3.70 | 4.20 | 3.00 | 38 | 2030-0.74 | ● |
| 0.75 | 3.75 | 4.20 | 3.00 | 38 | 2030-0.75 | ● |
| 0.76 | 3.80 | 4.30 | 3.00 | 38 | 2030-0.76 | ● |
| 0.77 | 3.85 | 4.30 | 3.00 | 38 | 2030-0.77 | ● |
| 0.78 | 3.90 | 4.40 | 3.00 | 38 | 2030-0.78 | ● |
| 0.79 | 3.95 | 4.40 | 3.00 | 38 | 2030-0.79 | ● |
| 0.80 | 4.00 | 4.50 | 3.00 | 38 | 2030-0.80 | ● |
| 0.81 | 4.05 | 4.50 | 3.00 | 38 | 2030-0.81 | ● |
| 0.82 | 4.10 | 4.60 | 3.00 | 38 | 2030-0.82 | ● |
| 0.83 | 4.15 | 4.60 | 3.00 | 38 | 2030-0.83 | ● |
| 0.84 | 4.20 | 4.70 | 3.00 | 38 | 2030-0.84 | ● |
| 0.85 | 4.25 | 4.70 | 3.00 | 38 | 2030-0.85 | ● |
| 0.86 | 4.30 | 4.80 | 3.00 | 38 | 2030-0.86 | ● |
| 0.87 | 4.35 | 4.80 | 3.00 | 38 | 2030-0.87 | ● |
| 0.88 | 4.40 | 4.90 | 3.00 | 38 | 2030-0.88 | ● |
| 0.89 | 4.45 | 4.90 | 3.00 | 38 | 2030-0.89 | ● |
| 0.90 | 4.50 | 5.00 | 3.00 | 38 | 2030-0.90 | ● |
| 0.91 | 4.55 | 5.00 | 3.00 | 38 | 2030-0.91 | ● |
| 0.92 | 4.60 | 5.10 | 3.00 | 38 | 2030-0.92 | ● |
| 0.93 | 4.65 | 5.10 | 3.00 | 38 | 2030-0.93 | ● |
| 0.94 | 4.70 | 5.20 | 3.00 | 38 | 2030-0.94 | ● |
| 0.95 | 4.75 | 5.20 | 3.00 | 38 | 2030-0.95 | ● |
| 0.96 | 4.80 | 5.30 | 3.00 | 38 | 2030-0.96 | ● |
| 0.97 | 4.85 | 5.30 | 3.00 | 38 | 2030-0.97 | ● |
| 0.98 | 4.90 | 5.40 | 3.00 | 38 | 2030-0.98 | ● |
| 0.99 | 4.95 | 5.40 | 3.00 | 38 | 2030-0.99 | ● |
| 1.00 | 5.00 | 6.50 | 3.00 | 38 | 2030-1.00 | ● |
| 1.01 | 5.05 | 6.50 | 3.00 | 38 | 2030-1.01 | ● |
| 1.02 | 5.10 | 6.50 | 3.00 | 38 | 2030-1.02 | ● |
| 1.03 | 5.15 | 6.50 | 3.00 | 38 | 2030-1.03 | ● |
| 1.04 | 5.20 | 6.50 | 3.00 | 38 | 2030-1.04 | ● |
| 1.05 | 5.25 | 6.50 | 3.00 | 38 | 2030-1.05 | ● |
| 1.06 | 5.30 | 6.50 | 3.00 | 38 | 2030-1.06 | ● |
| 1.07 | 5.35 | 7.50 | 3.00 | 38 | 2030-1.07 | ● |
| 1.08 | 5.40 | 7.50 | 3.00 | 38 | 2030-1.08 | ● |
| 1.09 | 5.45 | 7.50 | 3.00 | 38 | 2030-1.09 | ● |

Micro-forets / Mikrobohrer / Micro drills | Ø2.12 - Ø2.99 mm | 2030

MICRO-Line

| D1 h6 | L2 | L3 | D2 h6 | L1 | Art. N° | Z |
|---|---|---|---|---|---|---|
| 1.10 | 5.50 | 7.50 | 3.00 | 38 | 2030-1.10 | ● |
| 1.11 | 5.55 | 7.50 | 3.00 | 38 | 2030-1.11 | ● |
| 1.12 | 5.60 | 7.50 | 3.00 | 38 | 2030-1.12 | ● |
| 1.13 | 5.65 | 7.50 | 3.00 | 38 | 2030-1.13 | ● |
| 1.14 | 5.70 | 7.50 | 3.00 | 38 | 2030-1.14 | ● |
| 1.15 | 5.75 | 7.50 | 3.00 | 38 | 2030-1.15 | ● |
| 1.16 | 5.80 | 7.50 | 3.00 | 38 | 2030-1.16 | ● |
| 1.17 | 5.85 | 7.50 | 3.00 | 38 | 2030-1.17 | ● |
| 1.18 | 5.90 | 8.50 | 3.00 | 38 | 2030-1.18 | ● |
| 1.19 | 5.95 | 8.50 | 3.00 | 38 | 2030-1.19 | ● |
| 1.20 | 6.00 | 8.50 | 3.00 | 38 | 2030-1.20 | ● |
| 1.21 | 6.05 | 8.50 | 3.00 | 38 | 2030-1.21 | ● |
| 1.22 | 6.10 | 8.50 | 3.00 | 38 | 2030-1.22 | ● |
| 1.23 | 6.15 | 8.50 | 3.00 | 38 | 2030-1.23 | ● |
| 1.24 | 6.20 | 8.50 | 3.00 | 38 | 2030-1.24 | ● |
| 1.25 | 6.25 | 8.50 | 3.00 | 38 | 2030-1.25 | ● |
| 1.26 | 6.30 | 8.50 | 3.00 | 38 | 2030-1.26 | ● |
| 1.27 | 6.35 | 8.50 | 3.00 | 38 | 2030-1.27 | ● |
| 1.28 | 6.40 | 8.50 | 3.00 | 38 | 2030-1.28 | ● |
| 1.29 | 6.45 | 8.50 | 3.00 | 38 | 2030-1.29 | ● |
| 1.30 | 6.50 | 8.50 | 3.00 | 38 | 2030-1.30 | ● |
| 1.31 | 6.55 | 8.50 | 3.00 | 38 | 2030-1.31 | ● |
| 1.32 | 6.60 | 8.50 | 3.00 | 38 | 2030-1.32 | ● |
| 1.33 | 6.65 | 9.50 | 3.00 | 38 | 2030-1.33 | ● |
| 1.34 | 6.70 | 9.50 | 3.00 | 38 | 2030-1.34 | ● |
| 1.35 | 6.75 | 9.50 | 3.00 | 38 | 2030-1.35 | ● |
| 1.36 | 6.80 | 9.50 | 3.00 | 38 | 2030-1.36 | ● |
| 1.37 | 6.85 | 9.50 | 3.00 | 38 | 2030-1.37 | ● |
| 1.38 | 6.90 | 9.50 | 3.00 | 38 | 2030-1.38 | ● |
| 1.39 | 6.95 | 9.50 | 3.00 | 38 | 2030-1.39 | ● |
| 1.40 | 7.00 | 9.50 | 3.00 | 38 | 2030-1.40 | ● |
| 1.41 | 7.05 | 9.50 | 3.00 | 38 | 2030-1.41 | ● |
| 1.42 | 7.10 | 9.50 | 3.00 | 38 | 2030-1.42 | ● |
| 1.43 | 7.15 | 9.50 | 3.00 | 38 | 2030-1.43 | ● |
| 1.44 | 7.20 | 9.50 | 3.00 | 38 | 2030-1.44 | ● |
| 1.45 | 7.25 | 9.50 | 3.00 | 38 | 2030-1.45 | ● |
| 1.46 | 7.30 | 9.50 | 3.00 | 38 | 2030-1.46 | ● |
| 1.47 | 7.35 | 9.50 | 3.00 | 38 | 2030-1.47 | ● |
| 1.48 | 7.40 | 9.50 | 3.00 | 38 | 2030-1.48 | ● |
| 1.49 | 7.45 | 9.50 | 3.00 | 38 | 2030-1.49 | ● |
| 1.50 | 7.50 | 9.50 | 3.00 | 38 | 2030-1.50 | ● |
| 1.51 | 7.55 | 10.50 | 3.00 | 38 | 2030-1.51 | ● |
| 1.52 | 7.60 | 10.50 | 3.00 | 38 | 2030-1.52 | ● |
| 1.53 | 7.65 | 10.50 | 3.00 | 38 | 2030-1.53 | ● |
| 1.54 | 7.70 | 10.50 | 3.00 | 38 | 2030-1.54 | ● |
| 1.55 | 7.75 | 10.50 | 3.00 | 38 | 2030-1.55 | ● |
| 1.56 | 7.80 | 10.50 | 3.00 | 38 | 2030-1.56 | ● |
| 1.57 | 7.85 | 10.50 | 3.00 | 38 | 2030-1.57 | ● |
| 1.58 | 7.90 | 10.50 | 3.00 | 38 | 2030-1.58 | ● |
| 1.59 | 7.95 | 10.50 | 3.00 | 38 | 2030-1.59 | ● |
| 1.60 | 8.00 | 10.50 | 3.00 | 38 | 2030-1.60 | ● |
| 1.61 | 8.05 | 10.50 | 3.00 | 38 | 2030-1.61 | ● |
| 1.62 | 8.10 | 10.50 | 3.00 | 38 | 2030-1.62 | ● |
| 1.63 | 8.15 | 10.50 | 3.00 | 38 | 2030-1.63 | ● |
| 1.64 | 8.20 | 10.50 | 3.00 | 38 | 2030-1.64 | ● |
| 1.65 | 8.25 | 10.50 | 3.00 | 38 | 2030-1.65 | ● |
| 1.66 | 8.30 | 10.50 | 3.00 | 38 | 2030-1.66 | ● |
| 1.67 | 8.35 | 10.50 | 3.00 | 38 | 2030-1.67 | ● |
| 1.68 | 8.40 | 10.50 | 3.00 | 38 | 2030-1.68 | ● |
| 1.69 | 8.45 | 10.50 | 3.00 | 38 | 2030-1.69 | ● |
| 1.70 | 8.50 | 10.50 | 3.00 | 38 | 2030-1.70 | ● |
| 1.71 | 8.55 | 11.50 | 3.00 | 38 | 2030-1.71 | ● |
| 1.72 | 8.60 | 11.50 | 3.00 | 38 | 2030-1.72 | ● |
| 1.73 | 8.65 | 11.50 | 3.00 | 38 | 2030-1.73 | ● |
| 1.74 | 8.70 | 11.50 | 3.00 | 38 | 2030-1.74 | ● |
| 1.75 | 8.75 | 11.50 | 3.00 | 38 | 2030-1.75 | ● |
| 1.76 | 8.80 | 11.50 | 3.00 | 38 | 2030-1.76 | ● |
| 1.77 | 8.85 | 11.50 | 3.00 | 38 | 2030-1.77 | ● |
| 1.78 | 8.90 | 11.50 | 3.00 | 38 | 2030-1.78 | ● |
| 1.79 | 8.95 | 11.50 | 3.00 | 38 | 2030-1.79 | ● |
| 1.80 | 9.00 | 11.50 | 3.00 | 38 | 2030-1.80 | ● |
| 1.81 | 9.05 | 11.50 | 3.00 | 38 | 2030-1.81 | ● |
| 1.82 | 9.10 | 11.50 | 3.00 | 38 | 2030-1.82 | ● |
| 1.83 | 9.15 | 11.50 | 3.00 | 38 | 2030-1.83 | ● |
| 1.84 | 9.20 | 11.50 | 3.00 | 38 | 2030-1.84 | ● |
| 1.85 | 9.25 | 11.50 | 3.00 | 38 | 2030-1.85 | ● |
| 1.86 | 9.30 | 11.50 | 3.00 | 38 | 2030-1.86 | ● |
| 1.87 | 9.35 | 11.50 | 3.00 | 38 | 2030-1.87 | ● |
| 1.88 | 9.40 | 11.50 | 3.00 | 38 | 2030-1.88 | ● |
| 1.89 | 9.45 | 11.50 | 3.00 | 38 | 2030-1.89 | ● |
| 1.90 | 9.50 | 11.50 | 3.00 | 38 | 2030-1.90 | ● |
| 1.91 | 9.55 | 12.50 | 3.00 | 38 | 2030-1.91 | ● |
| 1.92 | 9.60 | 12.50 | 3.00 | 38 | 2030-1.92 | ● |
| 1.93 | 9.65 | 12.50 | 3.00 | 38 | 2030-1.93 | ● |
| 1.94 | 9.70 | 12.50 | 3.00 | 38 | 2030-1.94 | ● |
| 1.95 | 9.75 | 12.50 | 3.00 | 38 | 2030-1.95 | ● |
| 1.96 | 9.80 | 12.50 | 3.00 | 38 | 2030-1.96 | ● |
| 1.97 | 9.85 | 12.50 | 3.00 | 38 | 2030-1.97 | ● |
| 1.98 | 9.90 | 12.50 | 3.00 | 38 | 2030-1.98 | ● |
| 1.99 | 9.95 | 12.50 | 3.00 | 38 | 2030-1.99 | ● |
| 2.00 | 10.00 | 12.50 | 3.00 | 38 | 2030-2.00 | ● |
| 2.01 | 10.05 | 12.50 | 3.00 | 38 | 2030-2.01 | ● |
| 2.02 | 10.10 | 12.50 | 3.00 | 38 | 2030-2.02 | ● |
| 2.03 | 10.15 | 12.50 | 3.00 | 38 | 2030-2.03 | ● |
| 2.04 | 10.20 | 12.50 | 3.00 | 38 | 2030-2.04 | ● |
| 2.05 | 10.25 | 12.50 | 3.00 | 38 | 2030-2.05 | ● |
| 2.06 | 10.30 | 12.50 | 3.00 | 38 | 2030-2.06 | ● |
| 2.07 | 10.35 | 12.50 | 3.00 | 38 | 2030-2.07 | ● |
| 2.08 | 10.40 | 12.50 | 3.00 | 38 | 2030-2.08 | ● |
| 2.09 | 10.45 | 12.50 | 3.00 | 38 | 2030-2.09 | ● |
| 2.10 | 10.50 | 12.50 | 3.00 | 38 | 2030-2.10 | ● |
| 2.11 | 10.55 | 12.50 | 3.00 | 38 | 2030-2.11 | ● |
| 2.12 | 10.60 | 12.50 | 3.00 | 38 | 2030-2.12 | ● |
| 2.13 | 10.65 | 13.50 | 3.00 | 38 | 2030-2.13 | ● |
| 2.14 | 10.70 | 13.50 | 3.00 | 38 | 2030-2.14 | ● |
| 2.15 | 10.75 | 13.50 | 3.00 | 38 | 2030-2.15 | ● |
| 2.16 | 10.80 | 13.50 | 3.00 | 38 | 2030-2.16 | ● |
| 2.17 | 10.85 | 13.50 | 3.00 | 38 | 2030-2.17 | ● |
| 2.18 | 10.90 | 13.50 | 3.00 | 38 | 2030-2.18 | ● |
| 2.19 | 10.95 | 13.50 | 3.00 | 38 | 2030-2.19 | ● |
| 2.20 | 11.00 | 13.50 | 3.00 | 38 | 2030-2.20 | ● |
| 2.21 | 11.05 | 13.50 | 3.00 | 38 | 2030-2.21 | ● |
| 2.22 | 11.10 | 13.50 | 3.00 | 38 | 2030-2.22 | ● |
| 2.23 | 11.15 | 13.50 | 3.00 | 38 | 2030-2.23 | ● |
| 2.24 | 11.20 | 13.50 | 3.00 | 38 | 2030-2.24 | ● |
| 2.25 | 11.25 | 13.50 | 3.00 | 38 | 2030-2.25 | ● |
| 2.26 | 11.30 | 13.50 | 3.00 | 38 | 2030-2.26 | ● |
| 2.27 | 11.35 | 13.50 | 3.00 | 38 | 2030-2.27 | ● |
| 2.28 | 11.40 | 13.50 | 3.00 | 38 | 2030-2.28 | ● |
| 2.29 | 11.45 | 13.50 | 3.00 | 38 | 2030-2.29 | ● |
| 2.30 | 11.50 | 13.50 | 3.00 | 38 | 2030-2.30 | ● |
| 2.31 | 11.55 | 13.50 | 3.00 | 38 | 2030-2.31 | ● |
| 2.32 | 11.60 | 13.50 | 3.00 | 38 | 2030-2.32 | ● |
| 2.33 | 11.65 | 13.50 | 3.00 | 38 | 2030-2.33 | ● |
| 2.34 | 11.70 | 13.50 | 3.00 | 38 | 2030-2.34 | ● |
| 2.35 | 11.75 | 13.50 | 3.00 | 38 | 2030-2.35 | ● |
| 2.36 | 11.80 | 13.50 | 3.00 | 38 | 2030-2.36 | ● |
| 2.37 | 11.85 | 14.50 | 3.00 | 38 | 2030-2.37 | ● |
| 2.38 | 11.90 | 14.50 | 3.00 | 38 | 2030-2.38 | ● |
| 2.39 | 11.95 | 14.50 | 3.00 | 38 | 2030-2.39 | ● |
| 2.40 | 12.00 | 14.50 | 3.00 | 38 | 2030-2.40 | ● |
| 2.41 | 12.05 | 14.50 | 3.00 | 38 | 2030-2.41 | ● |
| 2.42 | 12.10 | 14.50 | 3.00 | 38 | 2030-2.42 | ● |
| 2.43 | 12.15 | 14.50 | 3.00 | 38 | 2030-2.43 | ● |
| 2.44 | 12.20 | 14.50 | 3.00 | 38 | 2030-2.44 | ● |
| 2.45 | 12.25 | 14.50 | 3.00 | 38 | 2030-2.45 | ● |
| 2.46 | 12.30 | 14.50 | 3.00 | 38 | 2030-2.46 | ● |
| 2.47 | 12.35 | 14.50 | 3.00 | 38 | 2030-2.47 | ● |
| 2.48 | 12.40 | 14.50 | 3.00 | 38 | 2030-2.48 | ● |
| 2.49 | 12.45 | 14.50 | 3.00 | 38 | 2030-2.49 | ● |
| 2.50 | 12.50 | 14.50 | 3.00 | 38 | 2030-2.50 | ● |
| 2.51 | 12.55 | 14.50 | 3.00 | 38 | 2030-2.51 | ● |
| 2.52 | 12.60 | 14.50 | 3.00 | 38 | 2030-2.52 | ● |
| 2.53 | 12.65 | 14.50 | 3.00 | 38 | 2030-2.53 | ● |
| 2.54 | 12.70 | 14.50 | 3.00 | 38 | 2030-2.54 | ● |
| 2.55 | 12.75 | 14.50 | 3.00 | 38 | 2030-2.55 | ● |
| 2.56 | 12.80 | 14.50 | 3.00 | 38 | 2030-2.56 | ● |
| 2.57 | 12.85 | 14.50 | 3.00 | 38 | 2030-2.57 | ● |
| 2.58 | 12.90 | 14.50 | 3.00 | 38 | 2030-2.58 | ● |
| 2.59 | 12.95 | 14.50 | 3.00 | 38 | 2030-2.59 | ● |
| 2.60 | 13.00 | 14.50 | 3.00 | 38 | 2030-2.60 | ● |
| 2.61 | 13.05 | 14.50 | 3.00 | 38 | 2030-2.61 | ● |
| 2.62 | 13.10 | 14.50 | 3.00 | 38 | 2030-2.62 | ● |
| 2.63 | 13.15 | 14.50 | 3.00 | 38 | 2030-2.63 | ● |
| 2.64 | 13.20 | 14.50 | 3.00 | 38 | 2030-2.64 | ● |
| 2.65 | 13.25 | 14.50 | 3.00 | 38 | 2030-2.65 | ● |
| 2.66 | 13.30 | 16.50 | 3.00 | 38 | 2030-2.66 | ● |
| 2.67 | 13.35 | 16.50 | 3.00 | 38 | 2030-2.67 | ● |
| 2.68 | 13.40 | 16.50 | 3.00 | 38 | 2030-2.68 | ● |
| 2.69 | 13.45 | 16.50 | 3.00 | 38 | 2030-2.69 | ● |
| 2.70 | 13.50 | 16.50 | 3.00 | 38 | 2030-2.70 | ● |
| 2.71 | 13.55 | 16.55 | 3.00 | 38 | 2030-2.71 | ● |
| 2.72 | 13.60 | 16.50 | 3.00 | 38 | 2030-2.72 | ● |
| 2.73 | 13.65 | 16.50 | 3.00 | 38 | 2030-2.73 | ● |
| 2.74 | 13.70 | 16.50 | 3.00 | 38 | 2030-2.74 | ● |
| 2.75 | 13.75 | 16.50 | 3.00 | 38 | 2030-2.75 | ● |
| 2.76 | 13.80 | 16.50 | 3.00 | 38 | 2030-2.76 | ● |
| 2.77 | 13.85 | 16.50 | 3.00 | 38 | 2030-2.77 | ● |
| 2.78 | 13.90 | 16.50 | 3.00 | 38 | 2030-2.78 | ● |
| 2.79 | 13.95 | 16.50 | 3.00 | 38 | 2030-2.79 | ● |
| 2.80 | 14.00 | 16.50 | 3.00 | 38 | 2030-2.80 | ● |
| 2.81 | 14.05 | 16.50 | 3.00 | 38 | 2030-2.81 | ● |
| 2.82 | 14.10 | 16.50 | 3.00 | 38 | 2030-2.82 | ● |
| 2.83 | 14.15 | 16.50 | 3.00 | 38 | 2030-2.83 | ● |
| 2.84 | 14.20 | 16.50 | 3.00 | 38 | 2030-2.84 | ● |
| 2.85 | 14.25 | 16.50 | 3.00 | 38 | 2030-2.85 | ● |
| 2.86 | 14.30 | 16.50 | 3.00 | 38 | 2030-2.86 | ● |
| 2.87 | 14.35 | 16.50 | 3.00 | 38 | 2030-2.87 | ● |
| 2.88 | 14.40 | 16.50 | 3.00 | 38 | 2030-2.88 | ● |
| 2.89 | 14.45 | 16.50 | 3.00 | 38 | 2030-2.89 | ● |
| 2.90 | 14.50 | 16.50 | 3.00 | 38 | 2030-2.90 | ● |
| 2.91 | 14.55 | 16.50 | 3.00 | 38 | 2030-2.91 | ● |
| 2.92 | 14.60 | 16.50 | 3.00 | 38 | 2030-2.92 | ● |
| 2.93 | 14.65 | 16.50 | 3.00 | 38 | 2030-2.93 | ● |
| 2.94 | 14.70 | 16.50 | 3.00 | 38 | 2030-2.94 | ● |
| 2.95 | 14.75 | 16.50 | 3.00 | 38 | 2030-2.95 | ● |
| 2.96 | 14.80 | 16.50 | 3.00 | 38 | 2030-2.96 | ● |
| 2.97 | 14.85 | 16.50 | 3.00 | 38 | 2030-2.97 | ● |
| 2.98 | 14.90 | 16.50 | 3.00 | 38 | 2030-2.98 | ● |
| 2.99 | 14.95 | 16.50 | 3.00 | 38 | 2030-2.99 | ● |

MICRO-Line

Informations techniques et symboles
Technische Informationen und Symbole
Technical information and symbols

60° 90° 120° — Angle / Winkel / Angle

λ 25° — Angle d'hélice / Spiralwinkel / Helix angle

λ 36° λ 38° λ 40° — Hélice différente / Unterschiedliche Spirale / Different helix

λ 35°/38° — Hélice progressive / Progressive Spirale / Progressive helix

Z — Nombre de dents / Anzahl der Zähne / Number of teeth

2xD1 — Rapport longueur-diamètre / Länge-Durchmesser Verhältnis / Length to diameter ratio

Lèvres, affûtage à facettes / Schneiden, Facettenschärfen / Flutes, sharpening with facets

Taillage demi-lune / Kanonenbohrer Spitze / Gundrills tip

Taillage renforcé 3/4 / 3/4 genuteter Fräser / 3/4 straight fluted

Usinage radial, diagonal et axial / Radiale, diagonale und axiale Bearbeitung / Radial, diagonal and axial machining

Usinage radial et axial / Radiale und axiale Bearbeitung / Radial and axial machining

45° E — Chanfrein / Fase / Chamfer

Sharp Corner — Coin vif / Scharfkantige Ecke / Sharp corner

Fraises hémisphériques / Radiusfräser / End mills with ball nose

Radius Corner — Rayon de coin / Eckradius / Corner radius

Dents avec coupe centrale / Zähne Zentrumschnitt / Teeth center cutting

Denture décalée / Versetzte Verzahnung / Alterned teeth

DHD — Denture à pas irrégulier, hélice différente / Ungleiche Teilung, unterschiedliche Spirale / Uneven tooth pitch, different helix

DHP — Denture à pas irrégulier, hélice progressive / Ungleiche Teilung, progressive Spirale / Uneven tooth pitch, progressive helix

Usinage torique / Torusbearbeitung / Toroidal machining

MD VHM HM — Métal dur / Vollhartmetall / Hard metal

| | | | |
|---|---|---|---|
| Diamètre outil<br>Werkzeugdurchmesser<br>Tool diametre | D (mm) | | |
| Nombre de dents<br>Zähnezahl<br>Number of teeth | Z | | |
| Profondeur de coupe<br>Schnitttiefe<br>Cutting depth | ap (mm) | | |
| Largeur de coupe<br>Schnittbreite<br>Cutting width | ae (mm) | | |
| Vitesse de coupe<br>Schnittgeschwindigkeit<br>Cutting speed | (m/min) | Vc = | $\frac{D \times \pi \times n}{1000}$ |
| Nombre de tours<br>Umdrehungen<br>Rotations | (U/min) | n = | $\frac{Vc \times 1000}{\pi \times D}$ |
| Avance par dent<br>Vorschub pro Zahn<br>Cutting feed per teeth | (mm/tooth) | fz = | $\frac{Vf}{n \times Z}$ |
| Vitesse d'avance<br>Vorschubgeschwindigkeit<br>Feed rate | (mm/min) | Vf = | fz x Z x n |
| Débit d'enlèvement de copeaux<br>Spanvolumen<br>Chip flow rate | ($mm^3$/min) | Q= | ap x ae x Vf |
| Avance par tour<br>Vorschub pro Umdrehung<br>Cutting feed per rotation | (mm/U) | f = | $\frac{Vf}{n}$ |

Nos propositions techniques s'appliquent à la plupart des utilisations courantes.
N'hésitez pas à nous contacter pour des conseils plus précis.

Diese technische Empfehlungen gelten für die Mehrzahl der Standardanwendungen.
Unsere Techniker beraten Sie gerne für spezifische Anliegen.

These technical propositions apply to the majority of standard usages.
Do not hesitate to contact us for more specific advices.